

***Expeditionary Readiness Course Expansion***  
**Final Supplemental**  
**Environmental Assessment**



**Nevada Test and Training Range**  
**September 2010**

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## **ACRONYMS AND ABBREVIATIONS**

AEF	Air and Space Expeditionary Force	NRHP	National Register of Historic Places
AFB	Air Force Base	NRS	Nevada Revised Statutes
Air Force	U.S. Air Force	NTI	Nevada Training Initiative
BO	Biological Opinion	NTTR	Nevada Test and Training Range
CEQ	Council on Environmental Quality	O <sub>3</sub>	Ozone
CFR	Code of Federal Regulations	PL	Public Law
CO	Carbon Monoxide	PM10	Particulate matter less than 10 microns
Creech AFB	Creech Air Force Base	RTA	Regional Training Area
EA	Environmental Assessment	RTC	Regional Training Center
EO	Executive Order	SDZ	safety danger zone
ExpeRT	Expeditionary Readiness Training	SEA	Supplemental Environmental Assessment
FONSI	Finding of No Significant Impact	SF	Security Forces
GHG	greenhouse gases	SIP	State Implementation Plan
INRMP	Integrated Natural Resources Management Plan	SO <sub>x</sub>	Sulfur Oxide
MOUT	Military Operations in Urban Terrain	TTR	Tonopah Test Range
Nellis AFB	Nellis Air Force Base	UBC	Uniformed Building Code
NEPA	National Environmental Policy Act	U.S. 95	U.S. Highway 95
NO <sub>x</sub>	Nitrogen Oxide	USACE	United States Army Corps of Engineers
		USFWS	United States Fish and Wildlife Service
		VOC	Volatile Organic Compound





# **FINDING OF NO SIGNIFICANT IMPACT**

## **1.0 NAME OF THE PROPOSED ACTION**

Expeditionary Readiness Training (ExpeRT) Course Additional Expansion

## **2.0 DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE**

The U.S. Air Force (Air Force) proposes to construct and improve facilities to fulfill student training demands at the ExpeRT Course, part of the Security Forces Regional Training Center (SF RTC) based at the Nevada Test and Training Range (NTTR). Specifically, the expansion of existing SF facilities would occur at Creech Air Force Base (AFB), Range 63C, part of Range 63B, and Range 71. New facilities at Creech AFB would include administrative buildings and a training and exercise area. Range 63C improvements would include new and expanded facilities at the Military Operations in Urbanized Terrain village, tent city, cadre area, vehicle yard, and target practice ranges. New target practice ranges would be established on Range 63B, adjacent to the existing ranges on Range 63C. Two convoy routes would be improved on Range 71 and on Range 63C to support training, including road improvements and new targets.

Under the no-action alternative, the Air Force would not increase student throughput for the course or improve facilities at the current RTC at Creech AFB, Range 63, and Range 71. The RTC could continue to accommodate up to 6,000 students per year. This would not allow ground combat troops to maintain the critical skills necessary to support the Air and Space Expeditionary Force concept and provide the required number of ground combat troops needed to face the current threat.

## **3.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

The Supplemental Environmental Assessment (SEA) provides an analysis of the potential environmental impacts resulting from implementation of the proposed action. The Air Force assessed numerous resources that, in accordance with Council on Environmental Quality (CEQ) regulations, warranted no further examination. Resources that did not warrant a detailed analysis include: airspace management and use; environmental justice and protection of children; hazardous materials and waste; health and safety; land management and use, recreation, and visual resources; noise; socioeconomics; and transportation. Five resource areas were evaluated in detail to identify potential environmental consequences: air quality; biological resources; cultural resources; geology and soils; and water resources. As summarized below, implementation of the proposed action would not result in any significant impacts. Standard best management practices and mitigation measures, as appropriate, would be implemented for each of the following resources, as described below.

**Air Quality.** The proposed action would contribute to increased air pollutants in the study areas as a result of temporary construction activities and operational emissions. These activities would emit air pollutants (carbon monoxide, nitrogen oxides, sulfur dioxide) and fugitive dust (PM10 and PM2.5) into the air, but impacts would primarily be localized in the immediate vicinity of the construction area and along roadways. Air quality impacts would not exceed *de minimus* levels or contribute substantially to regional air quality.

Best management practices and a dust mitigation plan would be implemented during construction in compliance with the dust control permit for activities in Clark County and applicable requirements in Nye County. Specific construction measures would include watering disturbed areas to minimize dust, using a dust palliative, using low-emission equipment, and minimizing construction during high winds. Construction activities would be monitored to ensure that no visible dust plumes exit the construction area or extend over 100 feet within the area. All activities would comply with existing permits to operate for Creech AFB and Silver Flag Alpha issued by the Clark County Department of Air Quality and Environmental Management.

**Biological Resources.** The proposed action would result in ground disturbance in the study areas and could disturb habitat for special-status species. Ground disturbing activities could require the removal of state-protected cacti and yuccas and other special-status plants known to occur in the region. Construction activities and training operations could affect the desert tortoise, a threatened species under the Endangered Species Act; western burrowing owls, a state-protected species; and nesting migratory bird species protected under the Migratory Bird Treaty Act. Individuals could be harmed during construction or training operations, but these activities would result in a minor loss of habitat. The Air Force would initiate Section 7 consultation with the U.S. Fish and Wildlife Service for impacts on desert tortoise and its habitat.

To avoid or minimize impacts on special-status plants and animals, construction activities would adhere to the requirements of the Air Force's programmatic Biological Opinion for the desert tortoise, Nellis AFB Integrated Natural Resources Management Plan, and applicable agency protocols and guidelines. Prior to construction, surveys for special-status plant and wildlife species would be conducted in the construction area and an appropriate buffer area. If special-status plant or wildlife species are identified in the construction areas, additional measures would be required to transplant populations of plants, establish no-construction buffer zones if appropriate, move animals outside the construction area, or monitor the area during construction.

Additional mitigation measures for desert tortoise include providing awareness training to all construction and project-related personnel who may travel through potential desert tortoise habitat, restricting speed limits in desert tortoise habitat, and restoring habitat to preconstruction conditions or

paying a per-acre remuneration fee as specified by the U.S. Fish and Wildlife Service. Exclusionary fencing can be installed prior to construction activities as a preventive action.

If nesting activity of owls or western burrowing owls are identified during pre-construction surveys, owl burrows would be protected from disturbance by limiting construction activities to non-nesting seasons, establishing a construction-free buffer zone around the active nest site, conducting biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged. If species relocation is necessary, non-invasive methods and passive relocation techniques would be used.

To avoid impacts on migratory birds, construction activities would be conducted outside of the nesting season. If construction activities occur during the nesting season, a pre-construction survey would be conducted, and if active nests or evidence of nesting is found, mitigation measures would be implemented. These measures may include establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

***Cultural Resources.*** The proposed action would result in ground disturbance of the study areas and could expose or damage buried cultural resources or human remains. No eligible historic properties are expected to be affected by the proposed action. Implementation of the proposed action would primarily occur in previously disturbed areas, reducing the potential for impacts on cultural resources.

To protect cultural resources, the Air Force would comply with Section 106 of the National Historic Preservation Act (36 CFR 800), other laws applicable to protecting cultural resources and human remains, and the Cultural Resources Management Plan (Nellis AFB Plan 126-7). Specific actions may include implementation of mitigation measures, consultation with tribal representatives, and coordination with the State Historic Preservation Officer and the Advisory Council for Historic Preservation. In addition, the construction area would be examined by an archaeologist prior to any ground disturbing activities. Any mitigation measures identified through the consultation process or further studies would be implemented prior to activities that could affect the resources.

***Geology and Soils.*** The proposed action would remove vegetation and involve grading activities in the study areas. These activities would expose soils to water and wind erosion, which could result in fugitive dust, soil erosion, and sediment in runoff. No impacts on paleontological resources are expected, and seismic activity has a low potential of damaging new facilities or structures.

Implementation of a dust mitigation plan and best management practices, such as proper grading, stabilization, straw bales, and other devices to channel storm water runoff, and watering construction sites to limit fugitive dust, would minimize adverse effects on soils. If paleontological resources are

discovered during construction, all activities in the immediate vicinity would be halted, and a qualified paleontologist would be consulted to assess the resources and to determine whether consultation with the Secretary of the Interior is warranted. All activities would comply with the Cultural Resources Management Plan (Nellis AFB Plan 126-7).

To prevent damage from seismic events, all buildings and structures would be designed to comply with the seismic stability requirements of the area, as identified in the Uniform Building Code.

**Water Resources.** The proposed action would involve construction activities in the study areas that could disturb soils and discharge sediment and other pollutants in runoff, which could be transported into nearby surface water features. Direct impacts on waters of the United States may occur from road improvements at Range 63C. In addition, the proposed action would reduce the amount of groundwater recharge in the study areas as a result of the new buildings and pavement limiting surface water infiltration. The proposed groundwater well would not substantially affect the groundwater aquifer. These impacts would be minor and localized.

Standard best management practices would be implemented during construction activities to prevent water quality impacts. These measures may include establishing a no-disturbance buffer zone around surface water features to prevent the chances of accidental contamination and transportation of chemicals, such as fuels or sediment, in runoff. Nellis AFB personnel would coordinate with the USACE to determine the need for compliance with Section 404 of the Clean Water Act on a project-specific basis if activities could result in fill material in jurisdictional washes at Range 63.

#### **4.0 CONCLUSION**

On the basis of the Supplemental Environmental Assessment, I find no significant impact to human health or the natural environment would be expected from implementation of the proposed action. Therefore, issuance of this Finding of No Significant Impacts is warranted, and preparation of an Environmental Impact Statement, pursuant to the National Environmental Policy Act of 1969 (Public Law 91-190), is not required.



STEVEN P. WINKLMANN  
Colonel, USAF  
Vice Commander, 99th Air Base Wing



Date

# **EXPEDITIONARY READINESS COURSE EXPANSION**

## **Final Supplemental Environmental Assessment**

**Nevada Test and Training Range  
September 2010**



# **EXECUTIVE SUMMARY**

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This Supplemental Environmental Assessment (SEA) analyzes the potential environmental consequences of the United States Air Force (Air Force) proposal to expand ground combat training facilities at the Nevada Test and Training Range (NTTR) and accommodate an increase in student capacity. This SEA supplements an EA completed in June 2006 that analyzed some of the facilities proposed to support the Expeditionary Readiness Training (ExpeRT) Course expansion and accommodate up to 6,000 students per year. The 2006 EA analyzed the environmental consequences of infrastructure improvements at Range 63, two academic facilities, a convoy combat training route, and upgrades to five small arms training ranges. This SEA evaluates potential environmental impacts that could result from the additional proposed improvements at Creech Air Force Base (AFB), Range 63 and Range 71 within the Nevada Test and Training Range (NTTR) to accommodate the proposed increase in student capacity of 8,000 students per year. These additional improvements would be constructed over a period of five or more years.

This SEA has been prepared by Nellis AFB in accordance with the requirements of the National Environmental Policy Act, Council on Environmental Quality guidelines, and Environmental Impact Analysis Process for the Air Force (32 CFR 989).

## **PURPOSE AND NEED**

Congress, in the National Defense Authorization Act (Fiscal Year 2000), expressed its concern that U.S. military services have not sufficiently emphasized urban warfare training. The purpose of the proposed action is to ensure the Air Force can adequately train sufficient numbers of ground combat troops prior to deployment to combat areas and to sustain its ongoing training needs in an environment that simulates realistic and current combat conditions. This plan would support an increase from the annual student throughput of 6,000 students identified in the 2006 EA to a potential annual capacity of 8,000 students per year. Given the existing facilities and infrastructure, the current course capacity at the Security Forces (SF) Regional Training Center (RTC) within NTTR is inadequate to meet the anticipated increase in student throughput. The existing training areas need more buildings and training facilities to accommodate the increased student capacity.

## **PROPOSED ACTION AND NO-ACTION ALTERNATIVE**

The Air Force proposes to construct and improve facilities to fulfill student training demands at the ExpeRT Course, part of the SF RTC based at the NTTR. Specifically, the expansion of existing SF facilities would occur at Creech AFB, Range 63C, part of Range 63B, and Range 71. New facilities



at Creech AFB would include administrative buildings and a training and exercise area. Range 63C improvements would include new and expanded facilities at the Military Operations in Urbanized Terrain village, tent city, cadre area, vehicle yard, and target practice ranges. New target practice ranges would be established on Range 63B, adjacent to the existing ranges on Range 63C. Two convoy routes would be improved on Range 71 and on Range 63C to support training, including road improvements and new targets.

Under the no-action alternative, the Air Force would not increase student throughput for the course or improve facilities at the current RTC at Creech AFB, Range 63, and Range 71. The RTC could continue to accommodate up to 6,000 students per year. This would not allow ground combat troops to maintain the critical skills necessary to support the Air and Space Expeditionary Force concept and provide the required number of ground combat troops needed to face current threats.

## **SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS**

According to the analysis in this SEA, implementation of the proposed action would not result in significant impacts in any resource category.

***Air Quality.*** The proposed action would contribute to increased air pollutants in the study areas as a result of temporary construction activities and operational emissions. These activities would emit air pollutants (carbon monoxide, nitrogen oxides, sulfur dioxide) and fugitive dust (PM10 and PM2.5) into the air, but impacts would primarily be localized in the immediate vicinity of the construction area and along roadways. Air quality impacts would not exceed *de minimus* levels or contribute substantially to regional air quality.

***Biological Resources.*** The proposed action would result in ground disturbance in the study areas and could disturb habitat for special-status species. Ground disturbing activities could require the removal of state-protected cacti and yuccas and other special-status plants known to occur in the region. Construction activities and training operations could affect the desert tortoise, a threatened species under the Endangered Species Act; western burrowing owls, a state-protected species; and nesting migratory bird species protected under the Migratory Bird Treaty Act. Individuals could be harmed during construction or training operations, but these activities would result in a minor loss of habitat. The Air Force would initiate Section 7 consultation with the U.S. Fish and Wildlife Service for impacts on desert tortoise and its habitat.

***Cultural Resources.*** The proposed action would result in ground disturbance of the study areas and could expose or damage buried cultural resources or human remains. No eligible historic properties are expected to be affected by the proposed action. Implementation of the proposed action would primarily occur in previously disturbed areas, reducing the potential for impacts on cultural resources.

***Geology and Soils.*** The proposed action would remove vegetation and involve grading activities in the study areas. These activities would expose soils to water and wind erosion, which could result in fugitive dust, soil erosion, and sediment in runoff. No impacts on paleontological resources are expected, and seismic activity has a low potential of damaging new facilities or structures.

***Water Resources.*** The proposed action would involve construction activities in the study areas that could disturb soils and discharge sediment and other pollutants in runoff, which could be transported into nearby surface water features. Direct impacts on waters of the United States may occur from road improvements at Range 63C. In addition, the proposed action would reduce the amount of groundwater recharge in the study areas as a result of the new buildings and pavement limiting surface water infiltration. The proposed groundwater well would not substantially affect the groundwater aquifer. These impacts would be minor and localized.

## **MITIGATION MEASURES**

To minimize impacts of construction activities, a variety of standard best management practices and mitigation measures would be implemented. All activities would be required to comply with applicable federal, state, and local regulations and permits.

***Air Quality.*** Best management practices and a dust mitigation plan would be implemented during construction in compliance with the dust control permit for activities in Clark County and applicable requirements in Nye County. Specific construction measures would include watering disturbed areas to minimize dust, using a dust palliative, using low-emission equipment, and minimizing construction during high winds. Construction activities would be monitored to ensure that no visible dust plumes exit the construction area or extend over 100 feet within the area. All activities would comply with existing permits to operate for Creech AFB and Silver Flag Alpha issued by the Clark County Department of Air Quality and Environmental Management.

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# **CHAPTER 1**

## **PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

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### **1.1 INTRODUCTION**

The United States Air Force (Air Force) is proposing to expand ground combat training facilities to accommodate increased student capacity at the Expeditionary Readiness Training (ExpeRT) Course on the Nevada Test and Training Range (NTTR) in southern Nevada. The ExpeRT Course is part of the Security Forces (SF) Regional Training Center (RTC) and currently includes facilities at Creech AFB and Range 63. The proposed expansion would also include a convoy route at Range 71 on the western end of the Tonopah Test Range (TTR) in Nye County, Nevada.

This Supplemental Environmental Assessment (SEA) was prepared to supplement an EA completed in June 2006 for partial expansion of the ExpeRT Course (Nellis Air Force Base 2006). The 2006 EA analyzed the environmental consequences of infrastructure improvements at Range 63, two academic facilities, a convoy combat training route, and upgrades to five small arms training ranges. These improvements were targeted for completion by the end of 2008 and were designed to provide the initial facilities necessary to support an increase in student capacity from 2,520 to 6,000 students per year. Some, but not all, of the improvements previously evaluated have been completed. This SEA evaluates the environmental impacts of additional training and infrastructure facilities at Creech Air Force Base (AFB), Range 63, and Range 71 to support the proposed increase in student capacity to new requirements of 8,000 students per year.

Nellis AFB prepared this SEA in compliance with the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) regulations implementing NEPA; Environmental Impact Analysis Process for the Air Force (32 CFR 989); and other applicable federal and state environmental legislation. This SEA incorporates by reference the information presented in the previous ExpeRT Course EA (Nellis Air Force Base 2006).

### **1.2 LOCATION OF THE PROPOSED ACTION**

The proposed action would expand existing SF facilities at Creech AFB, Range 63, and Range 71. These areas are part of the NTTR, which is composed of approximately 2.9 million acres in southern Nevada. The NTTR was withdrawn from public use as a national test and training area for military equipment and personnel under Public Law (PL) 106-65. The NTTR contains two functional areas:



the North Range and South Range, both of which are further divided into sub-ranges. Creech AFB and Range 63 are on the South Range in Clark County; Range 71 is on the North Range in Nye County (Figure 1, Chapter 1 figures are provided at the end of the chapter). Creech AFB is described in the previous ExpeRT Course EA (Nellis Air Force Base 2006); descriptions of Ranges 63 and 71 are provided below.

Ranges 63C and 63B are located approximately 12 miles east-southeast of Creech AFB and Indian Springs, Nevada (Figures 2 and 3). These areas lie on the southern edge of the South Range and are on the north side of U.S. 95, roughly 33 miles northwest of Las Vegas. Range 63 contains a mock village, cadre area, tent city, training ranges, and other facilities to support the ground combat training. Thirteen firing ranges follow an unnamed road parallel to U.S. 95 and support small arms, machine gun, grenade, and dismounted/mounted training. Additional information on Range 63C is available in the ExpeRT EA.

The TTR is a sub-range of the NTTR in the northwest corner of the NTTR. The primary function of the TTR is to support aeronautical research and development. It is used for electronic warfare and training, testing, and weapons evaluation operations for the Air Force, U.S. Army, U.S. Marine Corps, U.S. National Guard, U.S. Navy, Department of Energy, reserve forces, and other federal agencies (Nellis Air Force Base 2007). Range 71 is in the western portion of the TTR on the east side of U.S. 95, approximately 30 miles southeast of Tonopah, Nevada and 130 miles northwest of Las Vegas (Figure 4). Range 71 is used for weapons testing and convoy training.

## **1.3 BACKGROUND**

The Air Force has completed three previous environmental assessments evaluating different aspects of the ground combat training expansion at the NTTR: *Regional Training Area (RTA) Expansion, U.S. Air Force 99th Ground Combat Training Flight, Indian Springs Air Force Auxiliary Field* [now named Creech AFB] *Final Environmental Assessment* (RTA EA, Nellis Air Force Base 1997), the *Nevada Training Initiative (NTI) Final Environmental Assessment* (NTI EA, Nellis Air Force Base 2003), and the *Expeditionary Readiness Training Course Expansion Final Environmental Assessment* (ExpeRT EA, Nellis Air Force Base 2006). The RTA and NTI EAs are summarized in the ExpeRT EA.

The ExpeRT EA evaluated proposed infrastructure and academic facilities at the Silver Flag Alpha training area on NTTR and at Creech AFB. The EA evaluated environmental impacts of academic and laundry/shower/latrine facilities; improvement of five small-arms training ranges; a 1-mile convoy combat route; and utility upgrades. The EA analysis concluded that no significant impacts would occur, and a Finding of No Significant Impact (FONSI) was signed on June 20, 2006.

Additional background information on the ground combat training expansion is provided in the ExpeRT EA.

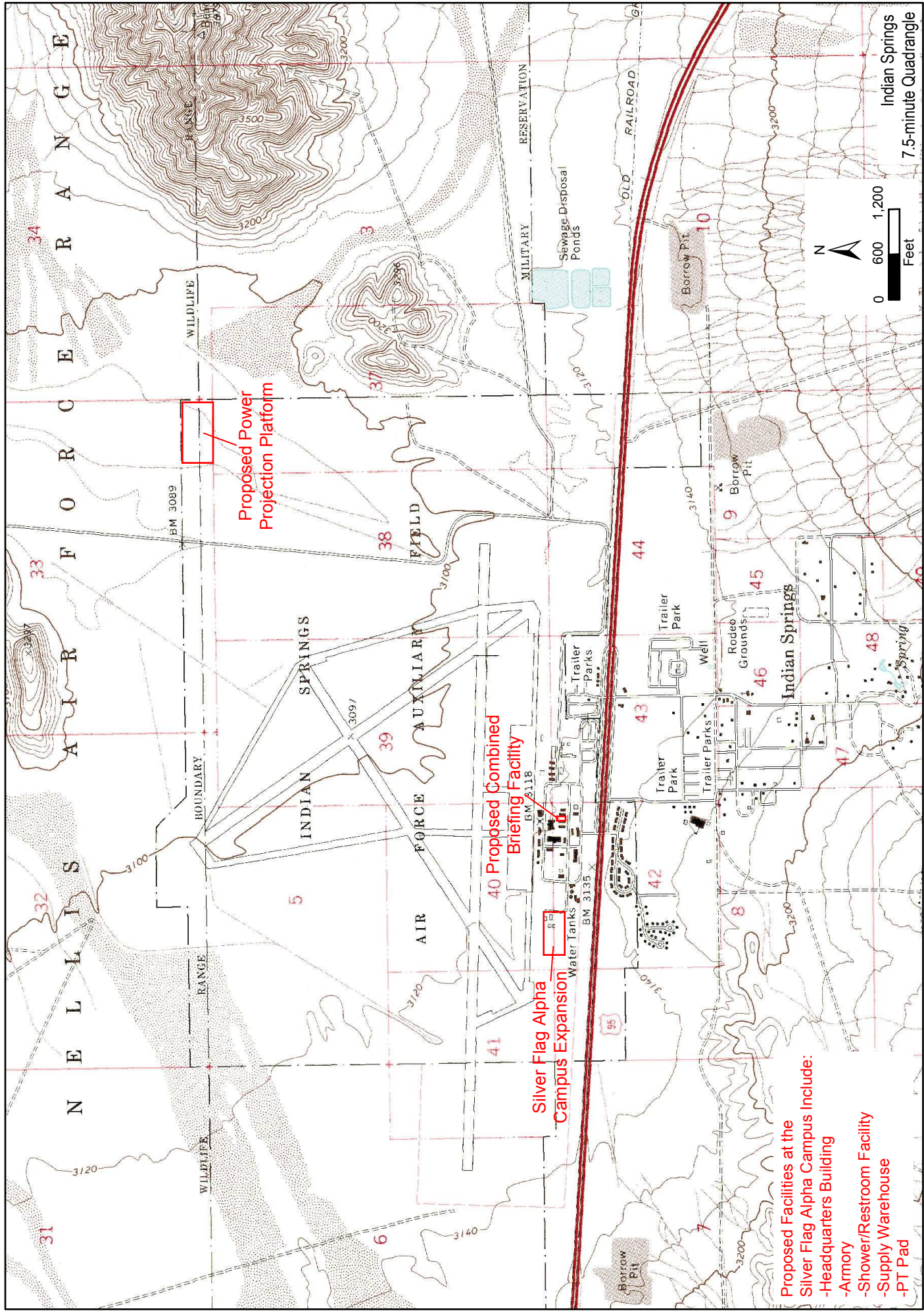
In aggregate, the previous environmental documentation provided substantial NEPA coverage of other proposed activities associated with the expansion of ground combat training facilities that would also support the increase in student capacity. This previous environmental documentation is incorporated by reference herein. Public and agency correspondence relating to this SEA is provided in Appendix A.

## **1.4 PURPOSE AND NEED**

The purpose of and need for the expanded ExpeRT Course facilities are described in detail in the ExpeRT EA (Nellis Air Force Base 2006). In summary, the purpose of the proposed action is to ensure that the Air Force can adequately train sufficient numbers of ground combat troops prior to deployment to combat areas and to sustain its ongoing training needs in an environment that simulates realistic and current combat conditions. Existing training facilities are inadequate to fully accommodate the necessary increase in student capacity (to 8,000 students annually) and provide the range of training necessary to reflect current threats. More students need to be trained at the NTTR to respond to significant changes in the focus and magnitude of threats to Air Force personnel worldwide and meet the increased demand for real-world training scenarios from the Air Combat Command and other Major Commands. Without this increase, SF personnel risk mission failure of force protection of Air Force personnel and assets, including aircraft, in combat zones.

Existing facilities at the NTTR provide the best opportunity for ground combat troops pre-deployment training currently available in the country. However, the training facilities are inadequate for the number of troops that require the training, and many facilities require upgrades or improvements to provide adequate training. The existing training areas need more classroom, storage, and other combat-related facilities; training pads; new targets and supporting facilities at the firing ranges; and an expanded convoy combat training route to accommodate all the ground combat trainees that must receive training. Expanding the training course at the NTTR would ensure appropriate pre-deployment training and support the Air and Space Expeditionary Force (AEF) concept.





ExpeRT Course Expansion Supplemental EA

Figure 1  
Creech Air Force Base



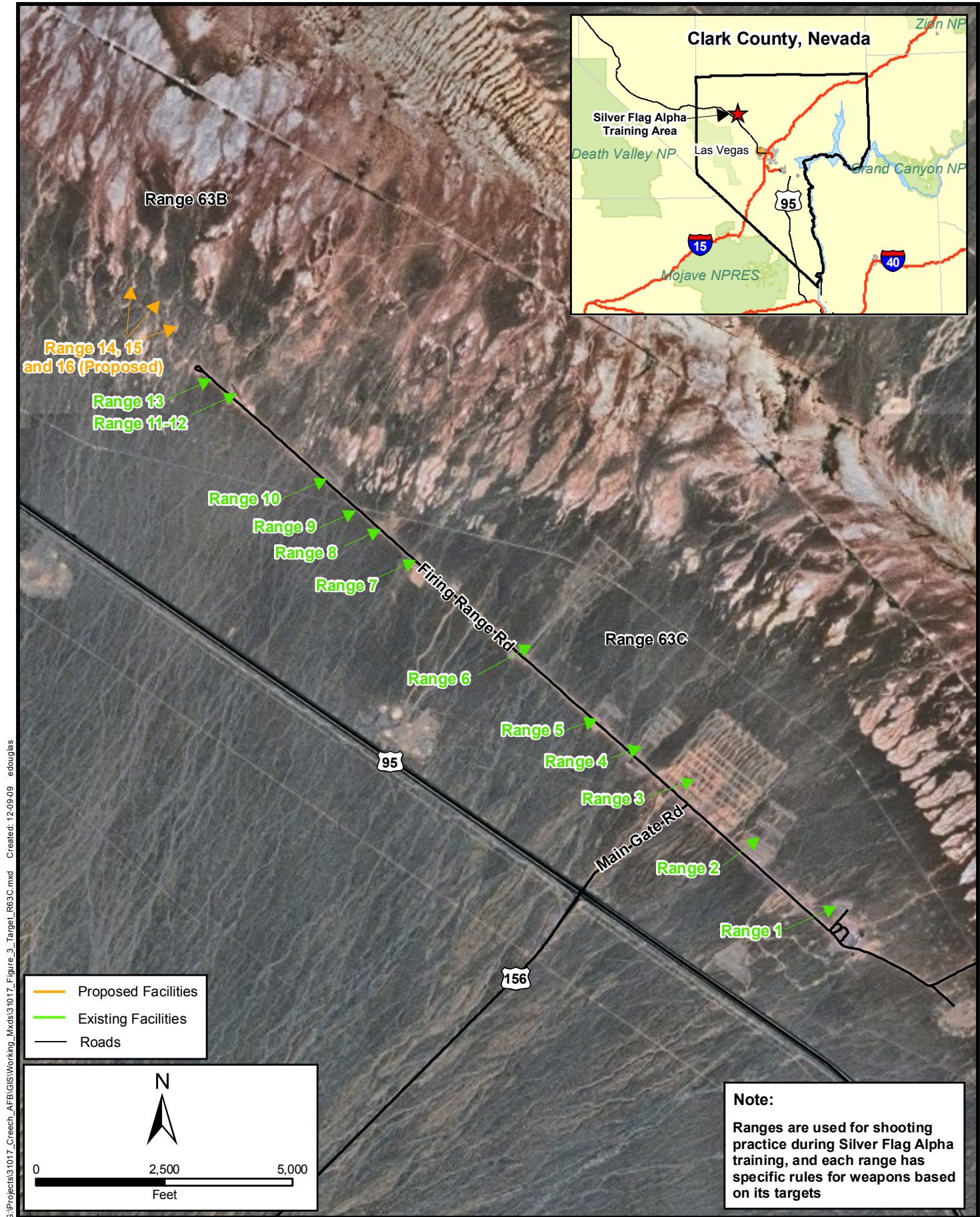




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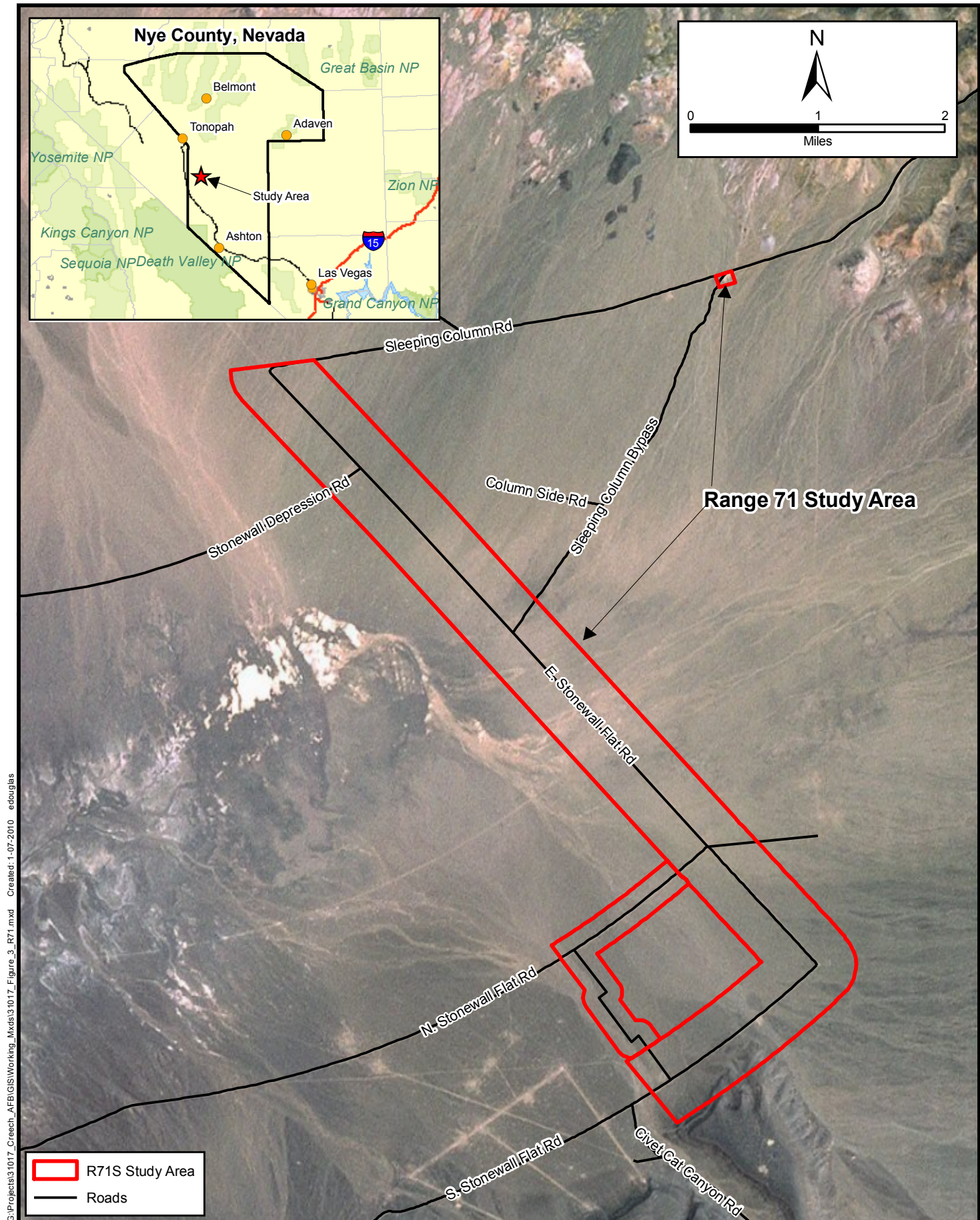




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## CHAPTER 2

# DESCRIPTION OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

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This chapter describes the Air Force proposal to expand and improve facilities at Creech AFB, Range 63, and Range 71 in support of increasing student capacity to 8,000 students per year. The proposed action would involve constructing or replacing buildings, upgrading infrastructure and roads, expanding training facilities, and expanding and upgrading training ranges. In conformance with NEPA and CEQ guidelines, this chapter also describes the no-action alternative. Under the no-action alternative, the Air Force would not expand or improve facilities in support of the increased student capacity; the existing facilities would not be adequate to properly train ground combat troops.

### 2.1 ALTERNATIVE IDENTIFICATION PROCESS

The Air Force considered an alternative location for a live fire ground combat convoy and dismounted operations range, but other alternatives (i.e., upgrading a different AFB) were not determined to be feasible because of the existing services available at the NTTR and ability of the NTTR to accommodate the necessary personnel, as discussed in the ExpeRT EA (Nellis Air Force Base 2006). Specific criteria considered during development of the proposed action are:

- Condition and type of existing facilities (i.e., are the existing facilities easily upgraded and do they currently provide effective training?)
- Ability to upgrade and expand existing facilities (i.e., does the AFB have space for expansion?)
- Similarity of environment to overseas environments (e.g., the dry, desert setting of Iraq and Afghanistan)
- Capacity of the AFB to support additional training

The alternative location for a live fire ground combat convoy and dismounted operations range on the NTTR was considered at Range 64, but this location was determined to be less viable than Range 71. Range 64 does not offer the space and existing training area that Range 71 does, and it would be difficult to establish a new training range on Range 64. Upgrading existing facilities at Range 71 is more cost effective than constructing a new range at Range 64, and the upgrades could be implemented in a shorter timeframe to meet the current demand for new facilities than construction of new facilities in a previously unused area.

The description of the proposed action in this SEA reflects the additional facilities needed to accommodate the increased student capacity beyond the facilities previously considered in other EAs. Other facilities to support the increased capacity, such as academic, lodging, and dining facilities at Creech AFB and certain infrastructure, have been evaluated in previous EAs, including the RTA EA (Nellis Air Force Base 1997), the NTI EA (Nellis Air Force Base 2003), and the ExpeRT EA (Nellis Air Force Base 2006). Many of these other facilities have been implemented and are described as part of the affected environment in Chapter 3.

## **2.2 PROPOSED ACTION**

Nellis AFB is proposing to further expand the ExpeRT Course at the NTTR, including improvements and facility modifications at Creech AFB, on Ranges 63C and 63B, and on Range 71 in the TTR. The improvements and facility modifications described in this SEA represent the final phases of the ExpeRT Course expansion and would occur over a period of five or more years.

Use of the facilities would require a slight change in operation procedures to accommodate the increased student throughput. The ExpeRT Course would be capable of training 12 groups of students throughout the year with each group alternating between facilities at Creech AFB and Range 63C and using the convoy route at Range 71 or 63C when necessary during the training session. Half the students would train, lodge, and dine at Creech AFB for about 8 days out of the 16-day course, while the other half would train, lodge, and dine at Range 63C (Silver Flag Alpha). The improvements and modifications described under the proposed action would provide the facilities necessary to accommodate the proposed training schedule and student capacity.

### **Creech Air Force Base Improvements**

Creech AFB serves as the administrative site for SF training. The base contains runways; hangars; maintenance, administrative, and operational facilities; and residences. The base's primary mission is to provide an emergency divert airfield for military aircraft training in NTTR airspace. New facilities would be required at the base to support the increased student capacity for the ExpeRT Course. Five new buildings would be constructed at the Creech AFB proper, and new parking areas, pavilions, and sidewalks would be installed where needed around existing and new buildings. A headquarters building, combined briefing facility, armory, shower/restroom facility, and supply warehouse (approximately 18,000 square feet) would be installed in the existing developed area at the base (see Figure 1 in Chapter 1). A pad for training and exercise (known as a PT pad) would be installed near the shower/restroom facility. Up to three additional buildings may also be constructed in the developed area, if needed. A power projection platform would be installed in the northeast corner of the base on approximately 9 acres of land disturbed by previous training operations. The platform

would serve as a staging area and may be constructed of concrete pads with overhangs to provide shading, a 60,000-square foot warehouse with hangar doors, or dormitories for students.

### **Range 63C Improvements**

Range 63C is currently used for ground combat sustainment training and contains a Military Operations in Urbanized Terrain (MOUT) village, tent city, cadre area, vehicle yard, 13 ranges for target practice, and paved and unpaved roads. These facilities need to be expanded to accommodate the projected increase in students. Construction activities would occur primarily in previously disturbed areas associated with the MOUT village, tent city, cadre area, and ranges, and along existing roads (see Figure 2 in Chapter 1).

Improvements at the MOUT village would include new buildings; two mock overpasses; road improvements; placement of guardrails; and parking areas, pavilions, and sidewalks where needed around existing and new buildings. Up to 30 new urban tactical training buildings would be constructed in or near the existing village; some buildings would be placed in previously undisturbed areas. One mock overpass (26 feet wide, 140 feet long) would be constructed of Conexs across an existing dirt road approximately 0.3 mile east of the MOUT village. A second mock overpass (same dimensions and materials) would be constructed across an existing dirt road approximately 0.4 mile northwest of the existing MOUT village. The mock overpasses would be used to support training and would not serve as a functioning bridges for vehicle access (no cross road would be constructed). The road improvements would include a four-way traffic circle (roundabout) along an existing dirt road approximately 0.3 mile northwest of the village and paving of the road between the village and the circle (0.3 mile). The traffic circle would replace a four-way intersection and provide large vehicles with the ability to turn around. It would encompass an area larger than the existing intersection and would require grading and paving in an undisturbed area. Approximately 80 pre-made guardrails would be installed along the roads and around the traffic circle, as needed, to serve as barriers along the roads. Parking areas, pavilions, and sidewalks would be constructed along existing roads near the MOUT village and would primarily be constructed in previously disturbed areas.

Improvements at tent city would include new buildings, tents, concrete pads, and a new desert tortoise fence. The buildings would include a 1,500-square-foot morale building and up to two additional buildings for student supplies and a student support arms room (size and location to be determined). The new buildings and tents would be installed inside proposed tortoise fence in areas that are mostly disturbed. New parking areas, pavilions, and sidewalks would be constructed around the buildings and tents as needed. Seven concrete pads (approximately 12 feet by 24 feet) would be installed to the east of tent city, where towers currently exist. Five of the pads would include new towers to replace the existing towers. The pads would be accessed via existing roads or disturbed areas, although some new disturbance may be necessary to construct the new pads and remove the existing pads.

A new tortoise fence is proposed around tent city to prevent impacts on tortoises during facility construction and training operations. The existing fence is in need of repairs, and additional space is needed at tent city to accommodate the increase in students and proposed improvements. The new fence would encompass approximately 9.5 acres and would be approximately 100 feet out from the existing fence. Perimeter lighting may be installed around the fence to provide nighttime lighting of tent city. Security fencing, gates, and HESCO (Hercules Engineering Solutions Consortium) barriers would be installed to protect students from real world threats.

The cadre area would experience the greatest expansion, with new buildings, parking areas, an exercise area, and expanded fire suppression services. The new buildings would include two 3,000 square-foot office buildings, one 4,000 square-foot classroom, and up to three 2,400 square-foot administration/supply warehouses to support training. The new buildings would replace existing wooden buildings and would be constructed in the previously disturbed area. Three existing metal buildings would remain. A tuff shed would be installed to the northeast of the cadre area in a less disturbed area, across from the proposed office building. New parking areas, covered personnel assembly areas, and sidewalks would be installed around the proposed buildings to accommodate the increased student capacity. A 0.75-mile running track and a PT pad for exercise and training would also be installed for students on the west side of the main access road. The track would be graded and paved or covered with an impact absorbent surface, similar to that used at playgrounds. Up to six new MET pads would be installed along the road to the southeast of the cadre area. The MET pads are concrete pads with overhangs, approximately 90 feet by 90 feet. An overhang would be installed on an existing pad. All facilities would be upgraded to current fire codes. A fire suppression system would be installed in existing buildings. A second groundwater well would be installed at the cadre area or nearby to serve tent city and the cadre area, as discussed under Utilities below.

A vehicle yard is located northwest of the cadre area, and improvements in this area would include a 6,000-square-foot administrative building, 4,000-square-foot warehouse, one 10,000 gallon diesel fuel pump and one 10,000 gallon gas pump, and parking areas with pavilions and sidewalks. The vehicle yard is an approximately 500-foot by 700-foot paved area with a fence around it. The fuel pumps would be installed at the center of the vehicle yard. The administration building and warehouse would be installed either inside the yard, if space is available, or to the northwest or southeast, immediately adjacent to the yard. The administration building would be used for staffing and vehicle maintenance and support. The warehouse would be used for maintenance and storage of parts. A new paved parking area would be constructed on the northern side of the road in a previously disturbed area; it would be sized to support five buses and 20 vehicles.

Additional expansion of the training facilities at Range 63C would involve expansions to the target practice ranges, referred to as Ranges 1 through 13, and creation of up to three new ranges, Ranges 14



through 16. Ranges 15 and 16 would be located on Range 63B and would be temporary practice ranges for the Silver Flag Alpha training. New gates and fencing for perimeter security would be installed to protect Department of Defense assets, students, and serve in the interest of public safety. Nellis South Range Security currently provides security by patrols, ground sensors, and maintenance of the range gate. Table 2-1 summarizes the proposed improvements at each range; range locations are depicted in Figure 3 in Chapter 1.

Existing roads and trails at the target practice ranges would be improved to incorporate live fire exercises, MOUT, mounted patrols with mine resistant ambush protected vehicles, and newer tactical vehicle live fire routes. The road improvements would include additional culverts for drainage, varying in width from 15 feet to 50 feet wide to allow for tactical training scenarios, and round-about intersections to accommodate up to 70,000-pound tactical vehicles. The routes would run the length of the live fire ranges. An existing dirt road that provides access to the target practice ranges from the MOUT village would be used as a convoy route for training. Additional live fire targets would be placed in the existing ranges. Safety danger zones (SDZs) would be created and depicted to show firing areas for all weapons systems up to the .50 caliber (5.56, 7.62, 40 mm HEDP/TP, .50 Cal) along the restricted road reaching out into Range 63C (Figure 5); similar SDZs would be established along the convoy route at Range 71. All SDZs would be contained within Department of Defense lands.

<b>Table 2-1. Target Practice Range Improvements</b>	
<b><i>Range No.</i></b>	<b><i>Improvement</i></b>
1	Concrete pad with overhang in existing disturbed area along road.
2	Concrete pad with overhang and parking area in existing disturbed area along road.
3	Replace pop-up targets. Underground lines may be necessary to connect to targets and allow remote activation. An overhang would be installed at the brass compound between Ranges 3 and 4.
4	Install new targets and a 7,000 square-foot, fully contained, 360-degree shoot house with closed-circuit television cameras and viewing catwalks.
5	Repair targets and place new dirt on mounds.
6	No improvements proposed.
7	No improvements proposed.



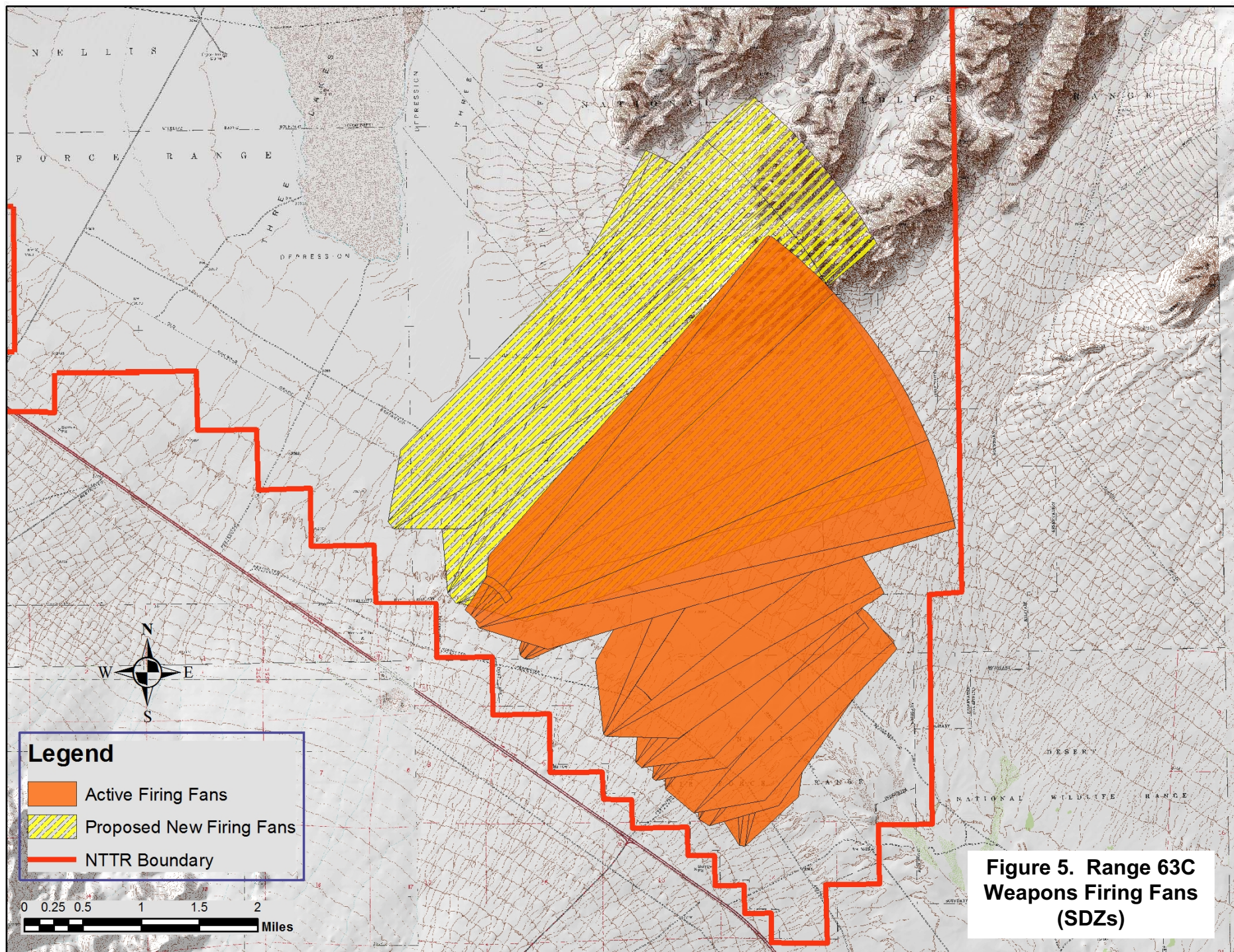
<b>Table 2-1. Target Practice Range Improvements</b>	
<b><i>Range No.</i></b>	<b><i>Improvement</i></b>
8	Replace shoot house (may move to Range 4).
9	Repair pop-up targets and place new dirt on mounds.
10	Replace elevated platform. Fill in existing trench with dirt.
11	No improvements proposed.
12	Construct new towers. Move half of tank targets to Range 14.
13	Construct new control tower. Replace targets and install underground line between targets and control tower. New targets would be placed every 100 meters up to 1,000 meters from the control tower.
14	Establish a new range with tank targets (from Range 12). Specific details not known at this time.
15	Establish a new range with wood targets. Specific details not known at this time.
16	Establish a new range. Specific details not known at this time.

## Range 71 Improvements

Range 71 is a live bombing and gunnery range and contains several unpaved roads with targets and a live fire training area along roads in the southern portion of the range. Students in the training program at Creech AFB are currently transferred between the base and Range 71 using U.S. 95 and U.S. 6. This route would continue to be used, but the increase in students would require the use of approximately three to four additional buses to transport students and approximately four semi-trucks to transport equipment twice per year.

Existing roads within the TTR would be used to access the convoy training route. Approximately 9.3 miles of the existing Stonewall Flat Road (east and portions of the south and north roads) would be graded and possibly paved to improve the convoy route; road widening is not expected to be necessary. A new road, approximately 1.4 miles long, would be constructed between South Stonewall Flat Road and North Stonewall Flat Road (see Figure 4 in Chapter 1). The training area along the roads would be improved to provide realistic scenarios and handle various tactical vehicles, including low- and high-speed sections for tactical live fire.









New targets, such as silhouettes, buildings, vehicles, and pop-up targets, would be installed along the roads for live fire training. Targets along the existing road would be placed out to 1,640 feet (500 meters) from the road, and targets along the new road would be placed out to 6,560 feet (2,000 meters) from the road. An approximately 1.5-mile-wide corridor along the road is evaluated in this SEA to account for bullet impacts during target practice. The pop-up targets would require an underground fiber connected to a shoothouse or tower near the road and a generator to operate the targets.

An assembly area would be established off the main entrance road to the area. It would be approximately 700 feet by 500 feet (8.03 acres) and would be located where a recycling/salvage yard exists. The assembly area would be used for personnel briefing and the temporary storage and issuing of fuel and ammunition. Students training at Range 71 would be required to clean up brass at the end of the training session and transport it back to Creech AFB for proper disposal. Other cleanups would occur similar to existing operations and as needed. All students would comply with NTTR safety procedures established by the range operating agency (Air Force).

## **Utilities**

To support the proposed improvements, water, sewer, and communication lines would be extended from existing service areas on Creech AFB and at the tent city and cadre area. Additional generator systems and fuel storage tanks would also be needed at Creech AFB and Range 63C to support the expanded facilities and student capacity. A new groundwater well would be installed at the cadre area or nearby on Range 63C to supply additional water to accommodate increased student capacity. The existing well at the cadre area is not capable of supplying the needed water to meet the increased student demands. Approximately 1.47 million gallons per year are allocated by State water rights for the proposed well. The new well would require water rights to withdraw water; therefore, unused water rights from an existing well (in the same aquifer) would be transferred to the new well. Because of the availability of unused rights, the transfer of rights is easier than allocating new rights from the State.

## **2.3 NO-ACTION ALTERNATIVE**

In conformance with NEPA and CEQ guidelines, the no-action alternative is also evaluated in this SEA. Under the no-action alternative, the Air Force would not increase the total number of students entering the training program each year and would not need to construct the additional facilities and infrastructure upgrades to support the continued expansion of the ExpeRT Course. Facilities that were previously approved or constructed would still be used, but no additional facilities would be constructed or expanded. The no-action alternative does not meet the purpose and need. Without the additional improvements, student capacity would not be increased to the level necessary, and the Air

Force would not have the ability to properly train students, reducing their ability to execute a real world mission in theater. In addition, a viable rotation schedule to support the AEF concept would not be met nor would the required number of ground combat troops needed to face the current threat be trained. No other Air Force facility has the organic range space to support this critical testing and training.

## **2.4 OTHER REGULATORY AND PERMIT REQUIREMENTS**

The NEPA process is intended to assist decision makers in understanding the environmental consequences of a proposed action and in taking appropriate actions that protect, restore, and enhance the environment to minimize the effects of a proposed action. In addition to the lead agency's review and approval process, permits or authorizations from other federal, state, or local agencies may be required prior to implementation of a proposed action. The proposed action would be subject to similar environmental statutes, regulations, and Executive Orders (EOs) as described in the ExpeRT EA (Table 2-3 in Nellis Air Force Base 2006). The Air Force would initiate Section 7 consultation with the USFWS for impacts on desert tortoise and document compliance with the programmatic Biological Opinion.

## **2.5 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Table 2-2 summarizes the anticipated environmental consequences of the no-action alternative and proposed action and identifies mitigation measures for impacts associated with the proposed action.

<b>Table 2-2. Summary Matrix of Anticipated Impacts and Mitigation Measures</b>			
<b><i>Resource Topic</i></b>	<b><i>Proposed Action</i></b>		<b><i>No-Action</i></b>
Air Quality	<b><i>Impacts:</i></b> <ul style="list-style-type: none"> <li>Increased air pollutants from temporary construction activities, less than <i>de minimis</i> thresholds.</li> <li>Increased long term vehicle and operational emissions.</li> </ul>	<b><i>Mitigation Measures:</i></b> <ul style="list-style-type: none"> <li>Acquire a dust control permit prior to construction activities.</li> <li>Implement best management practices and dust mitigation plan.</li> <li>Comply with applicable laws and existing permits to operate for Creech AFB and Silver Flag Alpha.</li> </ul>	<b><i>Impacts:</i></b> <ul style="list-style-type: none"> <li>Same emissions and fugitive dust from ongoing operations as existing conditions.</li> </ul>

Table 2-2. Summary Matrix of Anticipated Impacts and Mitigation Measures			
Resource Topic	Proposed Action		No-Action
Biological Resources	<p><i>Impacts:</i></p> <ul style="list-style-type: none"> <li>Ground disturbing activities could affect special-status plant and wildlife species and habitat.</li> <li>Training activities could affect desert tortoise, western burrowing owl, and nesting migratory birds.</li> </ul>	<p><i>Mitigation Measures:</i></p> <ul style="list-style-type: none"> <li>Comply with programmatic BO for desert tortoise, INRMP, and agency guidelines.</li> <li>Conduct pre-construction surveys for special-status plant and wildlife species.</li> <li>Restore disturbed habitat to pre-construction conditions.</li> <li>If necessary, relocate special-status plant and wildlife species outside of the construction area.</li> <li>Implement speed limit restrictions.</li> <li>Install fencing around ground disturbing activity, if needed.</li> <li>Limit construction activities to non-nesting season.</li> <li>Establish construction-free buffer zones around nests.</li> </ul>	<p><i>Impacts:</i></p> <ul style="list-style-type: none"> <li>Same plant and wildlife impacts from ongoing operations as existing conditions.</li> </ul>
Cultural Resources	<p><i>Impacts:</i></p> <ul style="list-style-type: none"> <li>Construction and ground disturbing activities could expose or damage buried cultural resources or human remains.</li> <li>No known, eligible resources would be affected.</li> </ul>	<p><i>Mitigation Measures:</i></p> <ul style="list-style-type: none"> <li>Conduct a pre-construction archaeological survey in areas not previously surveyed.</li> <li>Comply with the Cultural Resources Management Plan.</li> <li>Comply with Section 106 of the National Historic Preservation Act.</li> <li>Use monitors and implement data recovery efforts, if determined necessary during consultations.</li> </ul>	<p><i>Impacts:</i></p> <ul style="list-style-type: none"> <li>Same potential for cultural resource impacts from ongoing operations as existing conditions.</li> </ul>

Table 2-2. Summary Matrix of Anticipated Impacts and Mitigation Measures			
Resource Topic	Proposed Action		No-Action
Geology and Soils	<b>Impacts:</b> <ul style="list-style-type: none"> <li>Vegetation removal would expose soils to wind and water erosion.</li> <li>Construction and training activities would disturb soils.</li> <li>Ground disturbance could expose or damage paleontological resources.</li> </ul>	<b>Mitigation Measures:</b> <ul style="list-style-type: none"> <li>Implement best management practices and a dust mitigation plan.</li> <li>Comply with the Cultural Resources Management Plan.</li> <li>If paleontological resources are discovered, stop activities and consult a qualified paleontologist.</li> <li>Comply with the seismic stability requirements of the Uniform Building Code.</li> </ul>	<b>Impacts:</b> <ul style="list-style-type: none"> <li>Same soil disturbance from ongoing operations as existing conditions.</li> <li>Very low potential for paleontological resource impacts.</li> </ul>
Water Resources	<b>Impacts:</b> <ul style="list-style-type: none"> <li>Construction activities could discharge sediment and pollutants into surface waters.</li> <li>Construction activities at Range 63C may discharge fill into waters of the United States.</li> <li>Facilities could reduce groundwater infiltration.</li> </ul>	<b>Mitigation Measures:</b> <ul style="list-style-type: none"> <li>Implement best management practices.</li> <li>Comply with Section 404 of the Clean Water Act, if needed.</li> </ul>	<b>Impacts:</b> <ul style="list-style-type: none"> <li>Same water quality impacts from ongoing operations as existing conditions.</li> </ul>



# CHAPTER 3

## DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

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### 3.1 ANALYSIS APPROACH

This chapter describes the affected environment at the NTTR, with a focus on Creech AFB, Range 63, and Range 71, and discusses the anticipated environmental consequences of implementing the proposed action and no-action alternative described in Chapter 2. NEPA requires a focused analysis of the resources potentially affected by a federal agency's action or alternative to its action. This SEA focuses on those resources that would be affected by the proposed activities at the NTTR to support expansion of the ExpeRT Course student capacity.

CEQ regulations (40 CFR Parts 1500-1508) for NEPA require an EA to discuss impacts in proportion to their significance and present only enough discussion of other-than-significant issues to show why more study is not warranted. The analysis approach in this SEA considers the current conditions of the affected environment and compares them to conditions that might occur should either the proposed action or the no-action alternative be implemented.

To the extent practicable, information on the applicable regulations and affected environment is referred to the previous ExpeRT EA. Because of the differences in the proposed action and locations of proposed facilities evaluated in this SEA, much of the information presented in this chapter is new or expanded from the ExpeRT EA.

#### **Study Area Definition**

The description of the affected environment and analysis of environmental consequences in this SEA are focused on three primary study areas at Creech AFB, Range 63, and Range 71 (see Figures 1 through 5 in Chapters 1 and 2 for locations of these areas). These study areas correspond to the boundaries of the proposed action at each location, with a buffer, where appropriate, to accommodate operational impacts beyond where facilities are proposed. The description of the affected environment for each resource topic evaluated in this SEA includes a regional overview of the general vicinity and a more localized setting of proposed facilities and surrounding areas, as appropriate. The environmental consequences focus on sensitive resources that could be adversely affected in each study area.

## Resource Analysis

The Air Force conducted a preliminary assessment of various resources to determine which resources warranted further evaluation in this SEA (Table 3-1). Several resources did not warrant further evaluation in accordance with CEQ regulations; a brief discussion of these resources and the reasons for their elimination from further evaluation is provided below. The remaining resources (Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Water Resources) are discussed in more detail in the following sections.

<b>Table 3-1. Resources Considered in the Environmental Analysis</b>		
<i>Resources</i>	<i>Analyzed in this SEA</i>	
	<i>Yes</i>	<i>No</i>
Airspace Management and Use		✓
Air Quality	✓	
Biological Resources	✓	
Cultural Resources	✓	
Environmental Justice and Protection of Children		✓
Geology and Soils	✓	
Hazardous Materials and Waste		✓
Health and Safety		✓
Land Management and Use, Recreation, and Visual Resources		✓
Noise		✓
Socioeconomics		✓
Transportation		✓
Water Resources	✓	

## Resources Eliminated from Further Evaluation

***Airspace Management and Use.*** Airspace management and use would not be affected by the proposed action. No part of the action employs or would influence airspace operations or air traffic management on the NTTR, including the airspace overlying the NTTR. Construction and operation of additional training facilities would occur on the ground and would not conflict with overlying airspace activities. For this reason, airspace management was eliminated from further analysis.

***Environmental Justice and Protection of Children.*** Environmental justice addresses the disproportionate effect a federal action may have on low-income or minority populations. The proposed action would not pose a risk to communities or population centers nor disproportionately affect low income or minority populations. The town of Indian Springs is the closest community to the ExpeRT Course and proposed facility improvements, but the ground combat training activities on the NTTR would not adversely affect low income or minority populations in Indian Springs. In addition, the proposed action would not create environmental health or safety risks to children because all activities would occur on the NTTR, which has restricted access. The increase in student capacity at the ExpeRT Course could benefit the nearby communities by increasing visitors to the area, but such an effect would not be disproportionate or adverse. Therefore, environmental justice and protection of children were eliminated from further analysis.

***Hazardous Materials and Waste.*** The proposed action would entail the use of hazardous materials during construction and operation (e.g., fuel, solvents, live ordnance) and would generate some hazardous waste, but existing environmental and clean up programs at the NTTR would continue to be implemented to minimize impacts of hazardous materials or waste. Cleaning of 63C ranges is currently accomplished by Coronet Cleaning (NTTR contractor). Coronet sweeps the ranges to remove debris and maintain large target emplacement every two years. Brass residue clean up and turn in is currently accomplished by 99 GCTS personnel through 99 DRMO on an as needed basis. Personnel responsible for brass residue clean up and transport would continue to comply with NTTR safety procedures established by the range operating agency (Air Force). Similar cleanup procedures are used at Range 71.

Training-related activities would be implemented in compliance with existing Air Force instructions, Nellis AFB plans 16 (Aboveground Storage Tank Management Plan) and 35 (Creech AFB Spill Prevention Control and Countermeasures Plan, March 2009), policies, and procedures and would comply with applicable federal and state laws regulating hazardous materials and waste. Adherence to policies relating to hazardous materials and waste storage and use during operation would be monitored under the Air Force's Environmental Compliance Assessment Management Program, which requires both internal audits and examination by independent reviewers.

In addition, the proposed facilities would not be located in contaminated areas or where hazardous material or waste sites have been identified; the facilities would be specifically sited to avoid such areas. Given the enforced requirements to ensure safe handling and proper disposal of hazardous materials and waste, including recycling when feasible, the potential for adverse effects from such hazards would be low. Therefore, hazardous materials and waste were eliminated from further analysis.

**Health and Safety.** Effects on human health and safety related to construction and operation of the proposed action would be similar to current, on-going activities occurring at the NTTR. None of the proposed facilities would create unique or extraordinary safety issues. All facilities used for weapons firing at Range 63 and Range 71 would be on withdrawn military lands, be contained within prescribed safety zones, and would not endanger civilian populations (which are more than 10 miles away from both areas). Existing safety procedures are established by the Air Force Range operating agency and would continue to be followed under the proposed action. Aircraft safety would not be an issue because current operations and safety procedures in the airspace overlying the NTTR would not change. Development within Creech AFB would involve activities similar to current, standard, on-going activities that already occur at the AFB. For these reasons, health and safety were eliminated from further analysis.

**Land Management and Use, Recreation, and Visual Resources.** The proposed action would occur entirely on withdrawn military lands within the NTTR. Development on Creech AFB would occur on previously developed land that has been zoned for military purposes. Land management and use would not change from existing military-related activities. Recreation resources would not be affected by the proposed action because recreational use of these lands is restricted and would continue to be restricted under the proposed action. Visual resources would not be affected because the study areas are not considered visually sensitive areas due to existing disturbances and man-made facilities. New facilities would be visually similar to existing facilities and would not affect the scenic qualities of surrounding mountains or be visually dominant across the landscape from public viewpoints, such as U.S. 95. Nighttime lighting of any facilities would be consistent with the Nevada Division of State Lands requirements and would be directed away from nearby roads, highways, and other public viewpoints. In summary, the proposed action would have negligible effects on land management and use, recreation, and visual resources; therefore, no further analysis is warranted.

**Noise.** Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Response to noise varies by the type and characteristics of the noise source, distance from the source, receptor sensitivity, and time of day. Noise can be intermittent or continuous and steady or impulsive, and it may be generated by stationary or mobile sources. Noise generated from construction activities associated with the proposed action would be confined to remote areas at the NTTR and in developed areas at Creech AFB. Noise from increased SF training activities would result from vehicles and small arms firing. These types of noise would remain confined to the NTTR, an area already affected by louder, more frequent noise from aircraft operations overhead. No new noise sources would be introduced to new areas, and people in local communities, such as Indian Springs, would not be exposed to substantial levels of construction or

operation noise associated with the proposed action given the distance between the proposed activities and the nearest sensitive receptors. Therefore, noise has been eliminated from further analysis.

**Socioeconomics.** Socioeconomic resources are the general features of the local economy, such as employment, revenue, or economic growth, that could be affected by the proposed action. The proposed action would accommodate an increase in ground combat students at the NTTR, which would increase visitation to the area throughout the year. This, in turn, could increase revenue at local restaurants, stores, and other community facilities, although the increase would not be substantial because the training facilities provide food and housing for the students. The proposed action would not directly provide new jobs in the local communities because most activities would be implemented by Air Force personnel. However, an increase in students would benefit the small communities of Beatty and Tonopah by increasing local revenues as the students are transported between Creech AFB and Range 71. Because no adverse effects are anticipated, socioeconomics has been eliminated from further analysis.

**Transportation.** The proposed action would generate short-term construction-related traffic and would increase traffic to Creech AFB and the NTTR as the number of students able to be trained at the facilities increases. Primary access to the training areas at the NTTR is via U.S. 95, and this highway can accommodate the anticipated level of traffic. Students would be transported from Creech AFB to Range 71 using existing routes (U.S. 95, U.S. 6, and local roads on the TTR). The anticipated traffic increase would be on the order of approximately three to four busses and four semi-trucks twice per year. This increase would be negligible compared to existing traffic conditions and would not create traffic issues or conflicts beyond existing operations. Student traffic would occur throughout the year, with periodic peaks in traffic at the beginning and end of each training session. Traffic in local communities along the highway, such as Indian Springs, could be affected by the traffic, but the effect would be minimal and temporary. Transportation onto the range by approved personnel for use and maintenance of the training facilities would increase; however, this increase would be limited to 12 times per year and would not adversely affect existing transportation patterns or resources. The existing road system and roads improved under the proposed action would be able to accommodate the increase in traffic. For these reasons, transportation has been eliminated from further analysis.

## **3.2 AIR QUALITY**

Air quality in a given location is described by the concentration of various pollutants in the atmosphere and the climate of the region. The significance of the pollutant concentration is determined by comparing it to the federal and state ambient air quality standards. Understanding air quality in the study areas requires knowledge of (1) applicable regulatory requirements; (2) types and

sources of air quality pollutants; and (3) the extent of ongoing and proposed activities in the study areas.

## **Regulatory Requirements**

Applicable laws and regulations for air quality, including federal, state, and local (Clark County) requirements, are described in the ExpeRT EA (Nellis Air Force Base 2006). The Nye County Air Quality Department reviews dust control plans for projects in Nye County that disturb more than 0.5 acre and is responsible for approving best practicable methods identified in the plan.

In October 2009, federal EO 13514—*Federal Leadership in Environmental, Energy, and Economic Performance*—was passed, requiring federal agencies to increase energy efficiency and consider the effects of their activities on greenhouse gas emissions, among other sustainability goals. Specific to NEPA, the EO requires federal agencies to identify and analyze impacts from energy use in NEPA documents.

## **Affected Environment**

**Regional Setting.** Clark and Nye counties are in southern Nevada on the eastern side of the Sierra Nevada mountain range. This range forms a barrier to wind patterns coming off the Pacific Ocean and influences the overall climatic patterns throughout the state. Seasons in southern Nevada consist of long, hot summers with short, mild winters. Daily temperatures vary greatly due to strong surface heating and rapid nighttime cooling. The average annual temperature near Creech AFB and Range 63 is 60°F (Western Regional Climate Center 2010), which is generally representative of valley surfaces, and cooler temperatures are anticipated at higher elevations. The average annual temperature near Range 71 is 51°F, but temperatures frequently fall below zero during winter (Western Regional Climate Center 2010). Variations in precipitation are due mainly to differences in elevation and exposure to precipitation-bearing storms. Slightly more rain falls in the North Range than in the South Range, and higher elevations tend to receive significantly more precipitation than lower elevations. The study areas are in the foothills and valley floors at elevations between 3,000 and 4,800 feet, and average annual precipitation is relatively low, between 3 and 5 inches (Nellis Air Force Base 2007).

The outlying areas of Clark County have generally good air quality, but air pollutants from the Las Vegas Valley are occasionally transported outside the valley to Creech AFB, Range 63, and other northern county areas during strong northwesterly or northerly winds. Currently, Clark County, specifically the Las Vegas planning area hydrographic basin 212, is in nonattainment for particulate matter (PM<sub>10</sub>), 8-hour ozone (O<sub>3</sub>), and carbon monoxide (CO), primarily because of the high levels of pollutants in the Las Vegas Valley. A PM<sub>10</sub> State Implementation Plan (SIP) was developed in

2004 to provide objectives for meeting the National Ambient Air Quality Standards, and a SIP for 8-hour ozone has not yet been approved. A CO SIP was also prepared, and the County is seeking redesignation to attainment status because it currently meets CO 8-hour standards. The majority of the Silver Flag Alpha training facilities are in hydrographic basin 212 (Figure 6).

Air quality in Nye County is generally good, with localized variations in the more urbanized areas, such as Tonopah and Pahrump. Prevailing winds through these urban centers do not likely influence air quality in Range 71 because mountains surrounding the range block local wind patterns. Nye County meets the national standards for CO and 8-hour ozone and is in attainment for all pollutants. Portions of the county periodically exceed attainment standards for PM<sub>10</sub>, and, as a result, the Pahrump Valley is being managed under a Memorandum of Understanding to reduce PM<sub>10</sub> levels (Nevada Division of Environmental Protection 2010).

**Local Setting.** Air quality in the vicinity of the study areas is generally good, with the exception of occasional periods of smog near Creech AFB and Range 63 due to winter northwesterly winds transporting pollutants from the Las Vegas Valley. On-range emissions sources are similar in all study areas and include emissions typical of military operations, such as convoy training vehicles along roads, weapons testing in designated ranges, aircraft, and operation of maintenance shops and equipment. Emission sources near Creech AFB include vehicle travel along U.S. 95 and nearby local roads, residential and commercial uses at Indian Springs, and other emissions common to urban areas. The major source of emissions at Creech AFB is associated with airfield operations. Strong winds can produce vagrant dust on Ranges 63C and 71 from unpaved roads and soft soils. Additional emission sources in the vicinity of Range 63 include vehicle use along U.S. 95 and nearby local roads. Emission sources near Range 71 are limited to on-range sources, due to the range's distance from heavily used roadways and urban areas. Periodic maintenance and construction activities in all study areas can temporarily affect air quality due to diesel emissions and dust from ground disturbance.

Pollutants considered in the analysis for this SEA include the criteria pollutants measured by state and federal standards: CO, nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), O<sub>3</sub> (which volatile organic compounds [VOCs] are precursors), and PM<sub>10</sub>. The annual emission inventory for Creech AFB, Silver Flag Alpha, and Point Bravo was recently updated to document 2009 estimated emissions in these areas (Nellis Air Force Base 2010). The purpose of the inventory is to provide emissions data to support annual emission fee calculations and comply with permit requirements under the Clean Air Act and Clark County rules. Creech AFB is considered a minor source for all criteria pollutants, and all emission sources are currently in compliance with permit limits. A 2009 inventory was also completed for the Tonopah and Tolicha Peak areas on the TTR (Lopez 2010).



Table 3-2 summarizes the combined baseline emissions for Creech AFB, Silver Flag Alpha, and Point Bravo in Clark County and the estimated emissions in the Tonopah and Tolicha Peak areas in Nye County. Clark County and Nye County baseline emissions were not available for 2009; therefore, baseline emissions from 2005 are reported. Air Force activities at Creech AFB, Silver Flag Alpha, and the TTR contribute minimal emissions compared with the overall county emissions (less than 0.05 percent in Clark County and less than 0.15 percent in Nye County).

<b>Table 3-2. Baseline Air Emissions (tons/year)</b>					
	<i>CO</i>	<i>VOCs</i>	<i>NO<sub>x</sub></i>	<i>SO<sub>x</sub></i>	<i>PM10</i>
Creech AFB, Silver Flag Alpha, and Point Bravo	5.71	3.20	29.56	1.37	1.21
Clark County*	311,441	44,293	73,403	52,798	85,815
% Contribution	0.0018	0.0072	0.040	0.0026	0.0014
Tonopah and Tolicha Peak	0.0085	1.76	0.039	0.0026	0.0041
Nye County*	8,987	1,523	1,048	134	7,157
% Contribution	0.000	0.12	0.0037	0.0019	0.000

Sources: Nellis Air Force Base 2010; Lopez 2010; U.S. Environmental Protection Agency 2009.

\*Baseline emissions are for 2005; more recent inventories for the counties were not available.

Children, the elderly, and other health-sensitive people who have increased sensitivity to air pollution are considered to be sensitive receptors. Land uses that may attract sensitive receptors are considered sensitive uses. In the vicinity of the study areas, sensitive uses include residential uses in Indian Springs and outlying areas and military personnel working and living at Creech AFB and Range 63. Highways and recreational areas that could have sensitive receptors are fairly distant from the study areas or separated by existing development, such as in the area between Creech AFB and Indian Springs. The study areas are located on withdrawn lands, and public access is prohibited.

## **Environmental Consequences**

**Proposed Action.** The proposed action would contribute to increased air pollutants at Creech AFB, Range 63, and Range 71, as a result of temporary construction activities and longer term operational emissions from construction equipment, increased vehicle use along roadways, and use of generating units during training. Construction activities would involve equipment and vehicle use that would emit pollutants into the air (CO, NO<sub>x</sub>, SO<sub>x</sub>), ground disturbance that would result in fugitive dust (PM10 and PM2.5), and possible demolition activities that could release hazardous materials or

chemicals into the air. Furthermore, ground disturbance and construction activities would result in temporary emissions of greenhouse gases (GHG) from construction equipment and could contribute to regional GHG emissions.

Construction and vehicle emissions at Creech AFB and Range 63 would primarily be confined to the study areas, but some pollutants could be transported south into the Las Vegas Valley, which has existing violations of air quality standards. Construction activities in Clark County would conform to the PM<sub>10</sub> and CO SIPs and applicable permits and regulations (e.g., dust control permit). Increased emissions at Creech AFB could affect the nearby community of Indian Springs, which may include sensitive receptors. Emissions generated at Range 63 could affect travelers along U.S. 95 and local roads.

Specific equipment needs and schedules for each construction project are not known at this time, but they would be similar to the activities evaluated in the 2006 ExpeRT EA (e.g., placement of concrete slabs, trenching, road grading, range improvements). Because of the anticipated 5-year development plan for the training facilities, construction emissions would be spread out over several years, with smaller activities occurring simultaneously, resulting in minimal emissions at any one time and in any year. Estimated emissions from the 2006 ExpeRT EA were well below the *de minimis* thresholds for CO (100 tons per year), PM<sub>10</sub> (70 tons per year), and VOCs (100 tons per year). Annual emissions for construction activities associated with the final phase of the ExpeRT Course expansion would be expected to be less than 1 ton per year for any of the criteria pollutants (Nellis Air Force Base 2006). All activities would be required to comply with existing or future permits from Clark County and would not be allowed to exceed permit requirements. Therefore, construction emissions at Range 63 would conform with the PM<sub>10</sub> and CO SIPs and would not affect regional air quality, and a conformity analysis would not be required.

Construction activities associated with the improved convoy training route and increased vehicle travel to Range 71 would elevate air emissions in Nye County, which is currently in attainment status for criteria pollutants. However, emissions and dust at Range 71 would be confined to the TTR due to surrounding mountain ranges and would not affect regional air quality. Pollutants would likely readily disperse, reducing the concentration of localized pollutants. Furthermore, construction activities occurring at Range 71 are anticipated to be comparable to the convoy trail and road improvements evaluated in the 2006 ExpeRT EA. Emissions associated with the convoy training route would be less than 0.6 tons per year for any of the criteria pollutants (Nellis Air Force Base 2006). These emissions would be minimal and would not contribute substantially to air quality standards in Nye County. Range 71 activities would not affect sensitive receptors because of the range's distance from public facilities, highways, and recreational areas.

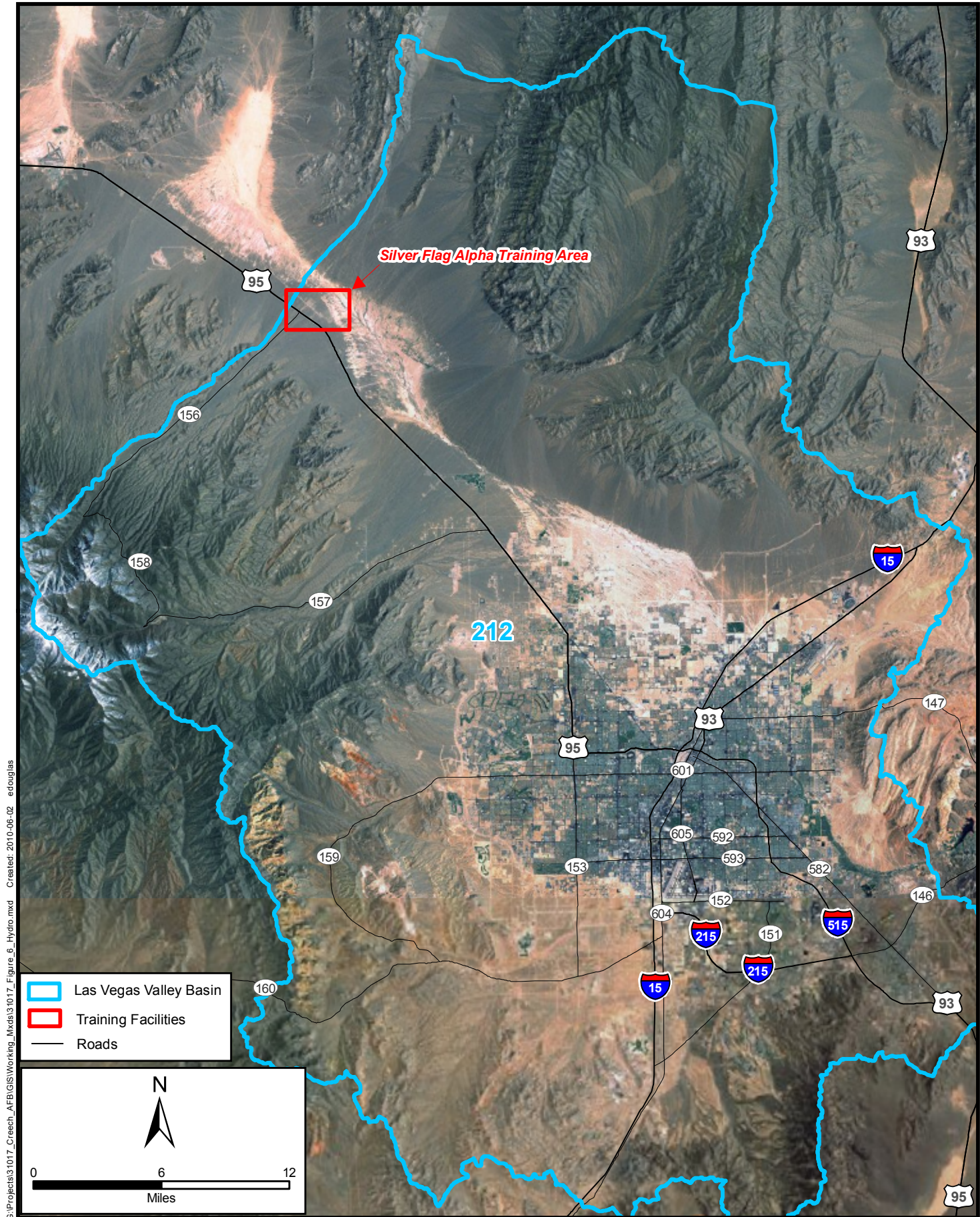
Indirect, long-term emissions of GHG would occur due to increased student and personnel vehicle trips and energy generation associated with the training activities. The modified training program would require travel between the study areas, requiring approximately three to four busses to transfer students between the areas and approximately two to four oversize vehicles to transport equipment twice per year. The increased student numbers would also increase vehicle travel along U.S. 95 between Las Vegas and Indian Springs, resulting in increased vehicle emissions over the long-term. In addition, travel at each study area on unpaved roads could disturb soils and generate fugitive dust.

Construction emissions from construction vehicle exhaust and fugitive dust in all study areas would be temporary and localized. Longer term vehicle emissions would be periodic throughout the year, with peaks when students begin and end their training, and would remain localized along the roadways. These emissions represent negligible ground-level releases with little initial dispersion or buoyancy, so their effects would remain in the immediate vicinity (less than 1 mile). Visibility impacts within Class I areas more than 50 miles from the study areas are not expected.

To further decrease the potential for air quality impacts, best management practices would be implemented during construction, and a dust control permit would be obtained from Clark County Department of Air Quality and Environmental Management prior to activities at Creech AFB or Range 63. A dust mitigation plan would be required for activities that disturb more than 0.25 acre. Specific construction measures would include watering disturbed areas to minimize dust, using a dust palliative, using low-emission equipment, and minimizing construction during high winds. Construction activities would be monitored to ensure no visible dust plumes exit the construction area or extend over 100 feet within the area. Construction activities at Creech AFB, Range 63C, and Range 71 would conform to all applicable laws and regulations. All activities would comply with existing permits to operate for Creech AFB and Silver Flag Alpha issued by the Clark County Department of Air Quality and Environmental Management.

**No-Action Alternative.** Under the no-action alternative, the Air Force would not construct new facilities, modify existing facilities, or increase the number of students at Creech AFB, Range 63, and Range 71 to 8,000 students annually. Ongoing operations at Creech AFB and the ExpeRT Course would continue to generate emissions, but no new emission sources would be created. Air quality would be similar to baseline conditions described under the affected environment section.





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### **3.3 BIOLOGICAL RESOURCES**

Biological resources consist of living, native, or naturalized plant and animal species and the habitats within which they occur. The focus of this discussion is on special-status plant and animal species, which are defined below. A biological resources assessment was prepared in support of the SEA, which included field surveys, a review of special-status species with potential to occur in the region, and a characterization of the study areas (see Appendix B).

#### **Regulatory Requirements**

The proposed action may be subject to compliance with several federal and state laws that protect biological resources, including special-status species, waters of the United States, and other sensitive biological resources. The ExpeRT EA provides an overview of most of the applicable laws (Nellis Air Force Base 2006). In addition to the Endangered Species Act and Clean Water Act, the Air Force must comply with the Migratory Bird Treaty Act and applicable Nevada Revised Statutes (i.e., NRS 501, 527, 555). The Integrated Natural Resources Management Plan (INRMP) provides guidance on Air Force Actions at the NTTR and Nellis AFB to sustain military readiness while maintaining ecosystem integrity and dynamics (Nellis Air Force Base 2007).

Specifically applicable to proposed activities on Creech AFB and Range 63, a programmatic Biological Opinion (BO) was issued by U.S. Fish and Wildlife Service (USFWS) to the Air Force to address desert tortoise (*Gopherus agassizii*) impacts on the lands jointly managed by Nellis AFB and the Desert National Wildlife Refuge (U.S. Fish and Wildlife Service 2003). The BO, as amended, requires Air Force projects that may involve surface disturbance to be cleared of desert tortoises and to implement specific avoidance and protection measures. In support of the programmatic BO, the Air Force submitted a desert tortoise habitat delineation map to the USFWS on July 20, 2009, to request concurrence and to provide direction on Endangered Species Act compliance for Air Force actions on the South Range. On August 27, 2009, the USFWS concurred with the delineation of potential desert tortoise habitat and recommended that the habitat map be used to determine the need to implement measures identified in the BO (U.S. Fish and Wildlife Service 2009).

#### **Affected Environment**

**Regional Setting.** The study areas are in southern Nevada in the Mojave Desert Basin (Creech AFB and Range 63) and Great Basin Desert (Range 71). This desert complex region is bordered by the southern Sierra Nevada on the west, the Great Basin Desert to the north, the Colorado River to the east, and the Mojave Desert to the south. The Sierra Nevada forms a massive mountain barrier that markedly influences the climate of the state. The region is characterized by generally north-trending, linear mountain ranges separated by intervening valleys. Precipitation in Nevada is lightest over the

southern portion of the state where the NTTR is located. In valleys, the average annual precipitation is less than 5 inches. The region is subject to high-intensity storms that can generate high peak surface flows during the late winter and summer months. Runoff from precipitation is practically non-existent during the rest of the year.

The Mojave Desert is the smallest of the four North American deserts, lying primarily in California, but also including the southern quarter of Nevada and small portions of Utah and Arizona (Royo 2002). Unlike the Sonoran Desert, the lower elevations of the Mojave Desert have only one species of tree, the Joshua tree. This tree-like yucca is endemic to the Mojave Desert and usually grows at elevations of 3,500 feet above mean sea level and higher. The Mojave Desert also hosts approximately 200 other plants that are not found in the Sonoran or Great Basin deserts. Although a published flora of the Mojave Desert is incomplete, approximately 2,600 vascular plant taxa are known to occur in the Mojave Desert floristic province (excluding the higher elevations, more than 8,000 feet, of the Spring, Sheep, and Panamint Mountain Ranges), representing one of the most diverse floristic regions in the United States. Although home to about 200 endemic plant species, the proportion of the Mojave Desert flora constituting special-status taxa is relatively low (10 percent of flora). Cheatgrass, red brome, halogeton, and Russian thistle are invasive species that have been documented on the NTTR (Nellis Air Force Base 2007).

Wildlife species are more abundant in the Mojave Desert than they are in the Great Basin Desert (MacMahon 1992), which may be due to the occurrence of fewer plant species in the Great Basin Desert. Plant communities are home to specific wildlife assemblages. For example, the creosote bush community (Mojave Desert) is known to have at least 30 species of reptiles, 33 species of birds (eight of which are permanent residents), and 44 species of mammals. The blackbrush community (Great Basin Desert) has fewer species—19 reptiles, 26 birds, and 33 mammals—but it still contains diverse fauna.

**Local Setting.** The study areas support two general biological communities or habitat types: Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub and Mixed Salt Desert Scrub. The Creosotebush-White Bursage Desert Scrub is the dominant habitat type at Creech AFB and Range 63. The Mixed Salt Desert Scrub is the dominant habitat type at the Range 71 study area. Descriptions of the habitats and wildlife species at Creech AFB and Range 63 are available in the ExpeRT EA (Nellis Air Force Base 2006); additional descriptions are provided in the biology report in Appendix B of this SEA.

Range 63 and Creech AFB lie in the northeastern portion of the Mojave Desert at an elevation of approximately 3,100 feet. These study areas are located in Sonora-Mojave-Baja Creosote-White Bursage Desert Scrub habitat. Portions of the study areas have been disturbed by previous military



activities. The desert basin surrounding the study areas supports plant communities dominated by creosote bush and white bursage with less disturbance. Several dry washes traverse the Range 63 study area and drain toward a major wash or dry lake to the east. At Creech AFB, a drainage ditch with wetland vegetation was encountered along a road in the northeast corner of the AFB. Little vegetation is present at Creech AFB because of the regular disturbances associated with base operations and the clearing and grading of the land to support development. Range 63 is less disturbed, but the areas where facilities are located are dominated by invasive and disturbance-tolerant plants (Russian thistle and various grasses) with native vegetation dominating in the outlying areas.

The study areas do not appear to contain gypsiferous soils, and no rock outcrops or other rocky areas were observed during the field surveys. These features are important habitat components for several special-status plant and animal species known to occur in the Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub biological community. In addition, the highly disturbed nature of the study areas reduces the suitability of the habitats for special-status plant and animal species, although species such as the western burrowing owl are known to use disturbed habitats.

The Range 71 study area is at an elevation of approximately 5,200 feet and is located within Mixed Salt Desert Scrub habitat. The blackbrush community is dominant in this area. The vegetation of the basin floor near Range 71 is typified by blackbrush, shadscale, and greasewood and may include winter fat, ephedra, Joshua tree, and hopsage. The study area is dominated by an unpaved road and targets that have resulted in varying levels of disturbance in the blackbrush community. Vast expanses of undisturbed vegetation surround the study area. Several washes also traverse the study area. Several songbirds and rabbits were observed during field surveys.

**Protected Plant Species.** Several state and federally protected special-status plants have been documented on or have potential to occur on the NTTR, nearby Nellis AFB, or Desert National Wildlife Refuge. These species include Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesil*, federal candidate), Las Vegas bearpoppy (*Arctomecon californica*, state fully protected), clokey buckwheat (*Eriogonum heermannii* var. *clokeyi*, state rare), and white bearpoppy (*Arctomecon merriamii*, state rare). Based on field surveys, suitable habitat for these species is not present in most of the study areas (lack of gypsiferous soils), and the plants have a low potential to occur, although portions of the study areas not specifically surveyed may contain suitable habitat (i.e., less disturbed areas at Range 63B). The State of Nevada also protects all cactus and yucca species, which are present in the study areas.

**Desert Tortoise.** The Mojave Desert population of the desert tortoise was listed as threatened by the USFWS on April 2, 1990. The species' range in the NTTR vicinity lies primarily within the Mojave

desert scrub habitat at elevations below 4,000 feet (Nellis Air Force Base 2006). Background information on desert tortoise surveys at the NTTR are available in the ExpeRT EA. In 2009, Nellis AFB and USFWS biologists completed a delineation of desert tortoise habitat within the NTTR. All of Range 63C is in potential tortoise habitat, but Creech AFB and Range 71 are not in suitable habitat. Tortoises may occur at Range 63C, although no evidence of tortoises was observed during field surveys. The disturbed nature of the training area at Range 63C may preclude tortoises from becoming residents, but the proximity of suitable habitat surrounding the training area creates a potential for individuals to move through the area.

As a precautionary measure, which was completed prior to the 2009 tortoise habitat delineation, Nellis AFB installed an exclusionary tortoise fence completely around the existing facilities at tent city in the Range 63 study area. This tortoise fence was inspected during field surveys and determined to be in a state of disrepair. The fence has several locations where damage has created breaches in the fence-line; large gaps below the fence were also observed in several locations.

**Western Burrowing Owl.** The western burrowing owl (*Athene cunicularia hypugaea*) is a species native to southern Nevada that adapts well to urban environments. It is a former federal species of concern and is a state-protected species in Nevada (Nevada Administrative Code 503.050). Western burrowing owls in southern Nevada may be summer residents, winter visitors, or year-round residents (Nellis Air Force Base 2007). Burrowing owls typically nest in abandoned rodent or other small mammal burrows.

The majority of documented owl sightings at the NTTR are not in the immediate vicinity of the study areas. During biological surveys in support of previous projects at the Indian Springs Air Force Auxiliary Field (now known as Creech AFB), one western burrowing owl was observed (Nellis Air Force Base 2007). Small mammal burrows (necessary to support western burrowing owls) are sparse in the study areas. However, the Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub habitat, found in the vicinity of the Creech AFB and Range 63 study areas, provides suitable habitat for burrowing owls. It is unlikely that burrowing owls would breed in the study areas due to a lack of small mammal burrows; it is more likely that burrowing owls would occur nearby and possibly forage in the study areas.

**Nesting Migratory Birds.** Migratory birds may nest in Joshua trees, shrubs, and other vegetation in and around the study areas. Species known to occur in the study areas that could potentially nest include mourning dove, sage sparrow, black-throated sparrow, roadrunner, lesser nighthawk, Gambel's quail, and Scott's oriole.

## **Environmental Consequences**

### ***Proposed Action***

**Special-Status Plants.** Ground disturbance associated with installation of targets, building construction, and training operations in habitat suitable for special-status plants could remove individuals or render the habitat unsuitable. Special-status plants (excluding cacti and yucca) have a low potential to occur in the study areas. Cacti and yuccas are known to occur in the study areas and would need to be removed and transplanted/relocated to accommodate the new training facilities. The INRMP provides guidelines to evaluate impacts on rare plants and implement measures to prevent or minimize adverse impacts. During the planning or implementation of any component of the proposed action, the natural resource manager would be consulted concerning the following:

- Location of any rare plant populations that could be potentially affected by the action.
- If rare plant populations are identified and could be affected by the action, the action would be modified to avoid or minimize impacts to the rare plants where practical.
- If impacts to rare populations cannot be avoided, methods of mitigation would be developed, which may include transplanting the plant population to another suitable habitat.
- If plants are transplanted to a new location, the location would be selected such that it can be avoided by future impacts if practical.

In compliance with the INRMP, once details on building footprints and target locations at the study areas are known, focused surveys for special-status (rare) plants, including cacti, yucca, and other special-status species, would be conducted by a qualified botanist. Plant surveys would be conducted during the appropriate blooming period to locate individuals or populations that need to be protected or transplanted. Consultations with the natural resource manager would commence once detailed project information is known.

**Desert Tortoise.** No desert tortoises or their burrows have been identified in the study areas, but construction activities and training operations at Range 63 have potential to affect the desert tortoise and its habitat. As part of the proposed action, the Air Force would install a new tortoise exclusion fence around tent city to prevent tortoises from entering the area and minimize the potential for tortoise impacts. The fence would be installed under the supervision of a qualified biologist and following tortoise fence standards provided by the USFWS. Other activities outside this fence could result in direct impacts on the desert tortoise or its burrows and could reduce the amount of suitable habitat in the area. The loss of habitat would be minimal because most new facilities would be installed in previously disturbed areas, with minimal vegetation removal. Activities at Creech AFB

and Range 71 are not expected to affect the desert tortoise because the areas do not support suitable habitat (Creech AFB) or are outside the tortoise's distribution range (Range 71).

Based on the programmatic BO the likelihood of tortoise presence in the study areas is low; however, the proposed action (activities at Range 63 only) has the potential to affect the tortoise and its habitat, although the effects are not expected to be adverse. Because of the potential for impacts on desert tortoise or its habitat at Range 63, the Air Force would initiate Section 7 consultation with the USFWS and document compliance with the existing programmatic BO. The proposed action would comply with the terms of the programmatic BO and subsequent amendment to ensure that, if desert tortoises are present, they would not be harmed. The following measures would be implemented, consistent with the BO,:

- Provide desert tortoise awareness training to all construction and project-related personnel who may travel through potential desert tortoise habitat. This training would provide information on how to identify the tortoise and potential burrows as well as provide information regarding who to contact if a tortoise (or sign of tortoise) is encountered.
- A qualified biologist would conduct pre-construction clearance surveys for desert tortoises within 500 feet of areas to be disturbed at Range 63 no more than 15 days prior to the initiation of construction activities. If tortoises are found, they would be removed from the area by a qualified biologist, and the construction area would be monitored to ensure tortoises do not return to the area. As an alternative option, exclusionary fencing can be installed prior to construction activities as a preventative action. No monitoring would be necessary if fencing is installed before construction. Desert tortoise exclusionary fencing would be at least 18 inches high and must be installed flush to the ground along the entire perimeter. The preferred option is to clear the construction area of desert tortoise and use a monitor during construction.
- On a case by case basis, as determined by the Nellis AFB natural resources manager and the USFWS, and based on the size (acreage) of and the type of activities that would be conducted, desert tortoises found and removed from the construction area and perimeter areas may be fitted with a radio transmitter. Tortoises may be moved up to 1 mile from the construction area out of harm's way. Tortoises fitted with a radio transmitter would be monitored and data collected until project construction is completed to determine movement and possibility of returning to the area of capture. Returning tortoises would continue to be moved out of harm's way until completion of the earth disturbing activities. Telemetry data would be collected during the construction monitoring phase and as possible for the life of the

transmitter or until the transmitter is removed from the tortoise. Telemetry data collected on desert tortoise moved out of harm's way would be provided to the USFWS.

- A qualified desert tortoise monitor would be present on the construction site, during all construction/earthmoving activities until the activities are completed.
- Impose a speed limit of 25 miles per hour in desert tortoise habitat. Speed limit signs would be posted on roads that enter tortoise habitat and would be monitored to ensure that the speed limit is enforced.
- Rehabilitate any temporary impacts to desert tortoise habitat to preconstruction conditions or pay a per-acre remuneration fee as specified by the USFWS.

**Western Burrowing Owl.** No western burrowing owls have been identified in the study areas, and small mammal burrows typically used by this species are generally lacking. However, suitable habitat is present in the vicinity of Creech AFB and Range 63, and burrowing owls may establish territories in the vicinity of these study areas. Construction activities and training operations within the vicinity of burrowing owl territories (occupied burrows and adjacent areas) could result in adverse impacts on western burrowing owls, if present.

The following measures are recommended to minimize or avoid impacts on burrowing owls:

- Pre-construction surveys for western burrowing owls within 500 feet of the Creech AFB and Range 63 construction areas would be conducted by a qualified biologist no more than 15 days prior to the initiation of construction activities. Multiple surveys may be necessary to assess nesting activity during the breeding/nesting period (generally March through August). Survey protocol would follow the guidelines set forth in the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995) or established in consultation with the Nevada Department of Wildlife or USFWS. If no western burrowing owls or their burrows are detected, no further measures are necessary. If burrows used by western burrowing owls are identified within the 500-foot buffer, the burrows would need to be protected from disturbance.
- Burrows occupied by western burrowing owls, especially active nest sites, and a 250-foot buffer around the burrow would not be disturbed during the nesting season (March 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

- If non-nesting burrowing owls must be moved away from the construction area, passive relocation techniques (e.g., one-way doors) would be used rather than trapping. All passive relocation measures would be implemented by a qualified biologist. Construction activities within 250 feet of burrows (formerly occupied by burrowing owls) containing passive relocation devices would not be initiated for a minimum of 15 days after installation or as determined appropriate by a qualified biologist, based on observations of the owls successfully relocating to alternate burrows.

**Nesting Migratory Birds.** The study areas provide suitable nesting habitat and may support nesting migratory bird species protected under the Migratory Bird Treaty Act. Removal of trees, shrubs, or other vegetation during the nesting season can cause direct impacts to nesting birds. Construction noise, vibration, and increased human activity can cause indirect impacts (e.g., nest abandonment, mortality of chicks, etc.). The following measures are recommended to avoid or minimize adverse impacts on nesting migratory birds:

- If practicable, construction activities (e.g., removal of woody vegetation, land clearing, surface disturbance) would be conducted outside of the nesting season (i.e., conduct construction from August to February). If construction activities are conducted outside of the nesting season, no further measures are necessary.
- If construction activities are scheduled during the nesting season, pre-construction surveys for active migratory bird nests within the construction area and a 300-foot buffer would be conducted by a qualified biologist within 15 days prior to the initiation of construction activities. If active nests (more than half completed) or evidence of nesting (mating or nesting activity) are identified within the surveyed area, appropriate conservation measures (as determined by a qualified biologist and in coordination with the USFWS) would be implemented. These measures may include, but are not limited to the following: establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the buffer zone around the active nest site until the young have fledged.

**No-Action Alternative.** Under the no-action alternative, the Air Force would not construct new facilities, modify existing facilities, or increase the number of students at Creech AFB, Range 63, and Range 71 to 8,000 students annually. Ongoing operations at Creech AFB and the ExpeRT Course would continue to have potential to affect special-status plant and animal species, but they would comply with applicable regulations, plans, and existing permits, including the programmatic BO for desert tortoise.

### **3.4 CULTURAL RESOURCES**

Cultural resources include prehistoric, historic, and traditional cultural resources or properties. Nellis AFB conducted a Class III cultural resources survey of Range 63C, encompassing approximately 4,026 acres, to determine the potential for cultural resources and assess eligibility for listing to the National Register of Historic Places (NRHP) (Hughes 2010). A cultural resources inventory is underway for the study area at Range 71. A cultural resources inventory was completed for Creech AFB in 1996 according to Nellis AFB.

#### **Regulatory Requirements**

Cultural resources management is directed by federal and state laws, primarily the National Historic Preservation Act, which is described in the ExpeRT EA (Nellis Air Force Base 2006).

#### **Affected Environment**

**Regional Setting.** Human use of the Great Basin dates back to approximately 12,000 years ago (Roberts, et al. 2007). During the earlier periods, Native Americans relied heavily on hunting large game for subsistence. As the region became increasingly more arid, they broadened their resource base and began to exploit more plants and other kinds of game. By about 9,000 years ago, Native Americans began to cluster around permanent water sources. The main tribe in southern Nevada was the Southern Paiute, whose territory encompassed the Las Vegas and Pahrump valleys and extended into part of Amargosa Valley. Primarily foragers, with varying degrees of dependence on horticulture, the Paiutes would congregate near bodies of water at different times of the year to collect pine nuts and agave and to hunt mountain sheep, deer, and small game. Few records exist of these nomadic peoples, most likely due to violent interactions with neighboring tribes and territorial loss from invasive Spanish and Mexican settlers who established territories in the area in the 16<sup>th</sup> century.

During the mid-1800s, southern Nevada became home to Mormon settlers intent on expanding their religious territory and bringing their doctrine to the local native populations (Roberts, et al. 2007). Expansion of settlers to the area brought the formation of the Old Spanish Trail, which served as a popular trading route between Santa Fe and Los Angeles. By the late 1850s, the small Las Vegas Valley community focused on ranching and farming to supply regional mining interests. In the Las Vegas, Moapa, and Virgin Valleys, farming communities continued to develop from the 1850s until the early 1900s. Mining ventures in southern Nevada were typically short-lived, and most of the areas survived as transportation hubs or ranching centers.

Railroad development began in the Las Vegas Valley in the early 1900s. Tent towns sporting saloons, stores, and boarding houses, were developed to entertain and accommodate men working on



the railroads. The Los Angeles, San Pedro, and Salt Lake railroad were completed in 1905, all later engrossed by the Union Pacific Railroad.

**Local Setting.** The survey of Range 63C identified three prehistoric and eight historic sites (Hughes 2010). Artifact assemblages at the prehistoric sites indicate that the area was likely used for hunting small animals. Processing tools, such as grinding implements, knives, pounding stones, and roasting pits, were not present at any of the prehistoric sites. Based on the lack of these tools, these sites were not likely used for foraging purposes or temporary settlements. Seven of the historic sites were associated with 18 miles of the historic Las Vegas and Tonopah (LV&T) Railroad alignment. These sites contain scatters of small containers and bottles, representative of smuggling activities that occurred on railroad-associated sites of that era. Remnants of a historic structure are located west of the LV&T Railroad. This site contains configurations of Owens Siding and was likely dismantled 90 years ago. Due to factors, such as erosion and artifact collecting, a building imprint is no longer visible.

All sites were assessed for NRHP eligibility and were determined to be ineligible, pending concurrence from the State Historic Preservation Officer. All information from the sites' limited surface components have been recorded. No eligible sites are known to occur in the study area at Creech AFB. The survey for Range 71, conducted as a separate project due to the large differences in cultural resources and distance between Range 63C and Range 71, is in process. The environmental context and the presence of a vast existing target complex indicate very low potential for the presence of eligible sites.

## **Environmental Consequences**

**Proposed Action.** Under the proposed action, construction and ground disturbing activities in each study area could expose or damage buried cultural resources or human remains. Specific activities that involve trenching or digging, such as installation of utility lines or the groundwater well, have the greatest potential to affect buried resources. However, construction activities would primarily occur on previously disturbed lands, reducing the potential for impacts on cultural resources.

Documented resources at Range 63C were assessed for NRHP eligibility and were determined to be ineligible. Based on these conclusions, previous studies at Creech AFB, and the low potential for eligible resources at Range 71, no eligible historic properties are expected to be affected by the proposed action.

To protect cultural resources, the Air Force would comply with Section 106 of the National Historic Preservation Act (36 CFR 800) and laws applicable to protecting cultural resources and human remains and would need to consult with the State Historic Preservation Officer and the Advisory

Council for Historic Preservation. Compliance with these laws may require implementation of mitigation measures, such as use of tribal representatives and archaeologists for construction monitoring, data recordation or recovery, or preservation of historic properties. If cultural resources or human remains are identified during ground disturbing activities, these activities would be halted, and a qualified archaeologist or tribal representative would be contacted to assess the find; the State Historic Preservation Officer, Native American tribes, and County coroner may be consulted to determine further actions. Portions of the study areas that have not been previously surveyed would be examined by a certified archaeologist prior to any ground disturbing activities in accordance with the Cultural Resources Management Plan (Nellis AFB Plan 126-7, Nellis Air Force Base 1998). Any mitigation measures identified through the consultation process or further studies would be implemented prior to activities that could affect the resources.

***No-Action Alternative.*** Under the no-action alternative, the Air Force would not construct new facilities, modify existing facilities, or increase the number of students at Creech AFB, Range 63, and Range 71 to 8,000 students annually. Ongoing operations at Creech AFB and the ExpeRT Course would continue to disturb the ground and could expose or disturb buried cultural resources. All future actions would comply with applicable laws and regulations, including the Cultural Resources Management Plan (Nellis AFB Plan 126-7). Impacts on eligible cultural resources are not anticipated, and any new projects in previously undisturbed areas would require a cultural resources inventory.

### **3.5 GEOLOGY AND SOILS**

The geology of an area influences its ability to support structures and defines the underlying material that makes up the earth and that may cause seismic or other hazards. Soil, in general, refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability of the ground to support structures and facilities. Paleontological resources may be found in underlying geologic formations and are considered a sensitive resource.

#### **Regulatory Requirements**

The Paleontological Resources Preservation Act was proposed in the 110<sup>th</sup> Congress (H.R. 554), but did not become law until the Omnibus Public Land Management Act (PL 111-11) was passed in 2009. The act provides for the protection of Fossils of National Significance on federal lands and prohibits the excavation, removal, exchange, transport, or any such activity that would result in damage to paleontological resources before first securing a permit from the Secretary of the Interior.

The Uniform Building Code (UBC) contains provisions that pertain to the seismic design of both structural components and nonstructural components. The UBC requires building components to be built to resist moderate earthquakes without significant structural damage and to resist severe earthquakes without collapse. Furthermore, additional regulatory guidance related to soils is provided indirectly through the management and protection of air quality and water resources. These include the Clean Air Act and Clean Water Act (see Sections 3.2 and 3.6 for further details).

## **Affected Environment**

**Regional Setting.** The study areas lie in the Great Basin and Mojave deserts, both of which are a part of the Basin and Range physiographic province. This province is characterized by interspersed north-south trending, rugged mountain ranges and flat valley floors. Elevations throughout the province vary substantially from about 1,900 feet in the valleys to over 8,500 feet in the surrounding mountain ranges. Elevations in the study area range from 3,000 to 4,800 feet. Topographic features in the north appear less pronounced, and valleys appear broader than those in the south. This is a result of the province's active volcanic past. Heavy accumulations of volcanic material have buried the dramatic features of the Basin and Range that are more evident in the south. Several active and inactive faults occur in southern Nevada; however, the Yucca fault in the south-central portion of the NTTR is the only active fault in the vicinity of the study areas. Other nearby faults include the Carpetbag fault and Pahrnagat fault.

Tertiary and quaternary materials, like those found in the study areas, have high fossil-containing potential for algae, echinoderm, and fusulinid. Quaternary materials also have the potential to contain common types of fossils, such as mollusks, corals, barnacles, algae, and other invertebrates. Spring, playa (dry lake), and lake deposits have high paleontological potential for mollusk shells. Creech AFB and Range 63 are in alluvium-filled valleys, which contain thick deposits of tertiary material originating from erosion of the adjacent mountain ranges and faulting activities that uplifted the underlying Paleozoic bedrock (Nellis Air Force Base 2007). Range 71 is in an alluvium-filled playa derived from carbonate parent material. Paleozoic carbonate rocks mixed with smaller amounts of quartzite, sandstone, and shale comprise the ranges that surround all study areas.

**Local Setting.** Creech AFB is located in the southern portion of Indian Springs Valley. The valley is bound by the Pintwater Range to the east and the Spotted Range and Buried Hills to the west. Range 63 is in the southern end of Three Lakes Valley, with the Pintwater Range to the west and the Desert Range to the east and north. The geologic terrane of the mountains surrounding both the Indian Springs and Three Lakes valleys is dominated by Paleozoic rocks, including limestone, dolomite, shale, and quartzite (Longwell et al. 1964). Soils in these valleys are derived from alluvial deposits and are typically fine-grained fertile soils that are easily eroded in areas not protected by desert pavement. The primary soil association at Creech AFB and Range 63 is Tencee. Tencee soils are

well-drained, moderately permeable soils, typically found on slopes ranging from 0 to 40 percent (Natural Resources Conservation Service 2008).

Range 71 is on the eastern portion of Stonewall Flat, an alluvial deposition extending from Stonewall Mountain. This area is surrounded by Stonewall Mountain to the south, the Cactus Ranges to the east, Ralston Valley to the north, and Goldfield Hills to the west. Geologic features around Range 71 include playas and small outcroppings of limestone. Unsel and Cirac soils associations underlie Range 71. These soils are very deep and well-drained silty soils characteristic of those that develop from alluvial processes. Unsel soils are typically present along fan remnants and fan skirts on slopes ranging from 0 to 30 percent. Cirac soils are present along alluvial flats, lake plains, lagoons, and fan skirts, and on 0 to 4 percent slopes.

There are no known records of paleontological resources in or near the study areas.

### **Environmental Consequences**

**Proposed Action.** Construction and ground disturbing activities would occur in all study areas and could involve vegetation removal and grading activities. Construction activities would primarily occur on previously disturbed lands with little vegetation present. Where vegetation removal and grading are necessary, soils would be temporarily exposed to water and wind erosion, which could result in fugitive dust, soil erosion, and sediment in runoff. Soils found in the study areas have a moderate potential for water erosion, and sandier soils, such as those in dry washes and on the eastern portion of Range 63C, have a high potential for wind erosion and dust generation. Operation of construction equipment on unpaved roads would also disturb soils and could create fugitive dust. However, as described under Section 3.2, Air Quality, dust mitigation plans would be implemented to reduce the potential for dust. Furthermore, implementation of best management practices such as proper grading, stabilization, straw bales and other devices to channel storm water runoff, and watering construction sites to limit fugitive dust would minimize adverse effects on soils.

The study areas contain tertiary and quaternary materials, which have high fossil-containing potential. Although no paleontological resources have been documented in or near the study areas, paleontological resources could be exposed or disturbed during ground disturbing activities. Most construction activities would require little ground disturbance, although some trenching or pipe installation may be required that could affect paleontological resources, if present. If paleontological resources are discovered during construction, all activities in the immediate vicinity would be halted, and a qualified paleontologist would be consulted to assess the resources and to determine whether consultation with the Secretary of the Interior is warranted. Construction activities would comply with the Cultural Resources Management Plan (Nellis AFB Plan 126-7).

The study areas are in an area of low seismic activity, but in the event of seismic activity from nearby faults, new buildings or structures could be moderately to severely damaged. To prevent against seismic damage, all buildings and structures would be designed to comply with the seismic stability requirements of the area, as identified in the UBC. The UBC requires buildings to be built to resist moderate earthquakes without significant structural damage and to resist severe earthquakes without collapse.

**No-Action Alternative.** Under the no-action alternative, the Air Force would not construct new facilities, modify existing facilities, or increase the number of students at Creech AFB, Range 63, and Range 71 to 8,000 students annually. Ongoing operations at Creech AFB and the ExpeRT Course would continue to disturb soils in exposed areas, but they would comply with regulations and existing permits. The potential for a geologic hazard to affect training facilities would remain low, and paleontological resources would have potential to be discovered during training activities that disturb the ground.

### **3.6 WATER RESOURCES**

Water resources include surface and groundwater hydrology and water quality. Lakes, rivers, and streams constitute surface water resources that are important for economic, ecological, recreational, and human health reasons. Groundwater is used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater properties are often described in terms of depth to aquifer, aquifer or well capacity, water quality, and surrounding geologic composition. Attributes of water resources considered in this SEA include hydrologic setting, availability, use, flood hazard, and adjudicated claims to water rights for both surface and groundwater.

#### **Regulatory Requirements**

Applicable federal, state, and local regulations for water resources management, including the Clean Water Act, Safe Drinking Water Act, and Nevada Administrative Code, are described in the ExpeRT EA (Nellis Air Force Base 2006).

#### **Affected Environment**

**Regional Setting.** Clark and Nye counties are relatively arid because of minimal precipitation and high evaporation rates. Surface water in the region is primarily from runoff of precipitation and springs at higher elevations. Most precipitation occurs during summer and winter storms and forms ephemeral streams that flow for varying amounts of time, from hours to weeks. Most of these ephemeral streams drain internally into playas found throughout the region. The study areas lie in three watersheds; Creech AFB is in the Indian Springs Valley Basin, Range 63 is in the Southern Three Lakes Valley Basin, and Range 71 is in the Stonewall Flat Basin. Aside from Range 63, which

flows into the Colorado River via the Las Vegas Wash, these watersheds are closed basins, limited to internal drainage only (i.e., not entering the ocean).

Average annual precipitation in the study areas ranges from 3 to 5 inches. During winter and summer storms, sudden heavy rainfall may occur. Large quantities of precipitation can quickly saturate the soils, resulting in large volumes of runoff from the mountains and foothills and flash flooding or ponding in valleys and other low-lying regions, such as playas found near the study areas.

Groundwater in the Basin and Range physiographic province occurs within two interconnected aquifer systems: a deep regional system and a shallow system confined to individual basins and watersheds. Carbonate rocks that compose the Great Basin are highly permeable and support extensive regional groundwater flow systems. Recharge to these aquifer systems comes mainly from the infiltration of winter precipitation that falls in the surrounding mountain. Groundwater discharge occurs primarily through evapotranspiration from the valley floors and spring discharge.

The state of Nevada manages groundwater rights in Clark County, in both Indian Springs and Three Lakes valleys (Southern Nevada Water Authority 2008). Groundwater pumping in Clark County occurs at 100 permitted municipal wells, and these wells supply 10 percent of southern Nevada's water needs. The remaining 90 percent is taken from the Colorado River (Southern Nevada Water Authority 2008). Primary water use within both basins is pumped for domestic uses.

**Local Setting.** Surface waters originating at higher elevations drain into the low-lying depressions in or near the study areas. At Creech AFB, these waters generally drain to the north and into Indian Springs Valley. At Range 63, surface waters drain south into the Las Vegas Valley. Surface waters at Range 71 generally drain northwest in the direction of Tonopah.

Surface water features, such as ephemeral playas and dry washes, exist near all study areas. A small drainage ditch with wetland vegetation occurs west of the proposed power projection platform on Creech AFB. Alluvial washes occur along the eastern portion of Range 63. These washes are extensions of a dry lake at the southern end of Three Lakes Valley. A dry lake occurs west of Range 71. These low-lying depressions temporarily fill with water during large precipitation events.

Creech AFB operates three groundwater pumping wells and has water rights to 154,140 gallons of water per day or 172.57 acre-feet per year (U.S. Air Force 2008). As of 2008, Creech AFB used approximately 61,000 gallons per day, which leaves 93,000 gallons per day free for additional use (Nellis Air Force Base 2008). At this rate, the existing groundwater supply can support between 2,700 and 3,400 additional personnel (U.S. Air Force 2008). A groundwater well is located at the cadre area on Range 63C (see Figure 2 in Chapter 1).

## **Environmental Consequences**

**Proposed Action.** Construction activities in each study area would disturb soils and could discharge sediment and other pollutants in runoff, which could be transported into nearby surface water features. These activities would not affect surface water flow or drainage and would not result in direct impacts on the dry washes and dry lakes in the vicinity of the study areas. To prevent water quality impacts, standard best management practices to prevent pollutants in runoff would be implemented during construction. No stockpiling or equipment storage would occur within 50 feet of the drainage features to prevent the chances of accidental contamination and transport of chemicals such as fuels or fill material.

Direct impacts (i.e., placement of fill) on waters of the United States or wetlands are not anticipated during construction activities or training operations at Creech AFB or Range 71. Surface water features at these study areas are not expected to fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE), based on the descriptions of these areas in the INRMP. In addition, the surface water features in the vicinity of these study areas can be avoided by construction, and no facilities are proposed to be located in the drainage ditch at Creech AFB.

Culverts associated with road improvements at Range 63 may require the placement of fill material (concrete or similar material) in dry washes. Prior to any construction activities, Nellis AFB personnel would meet with the USACE at the project area(s) at Range 63 to determine if a delineation of waters of the United States should be prepared and if a Section 404 permit and Section 401 water quality certification may be required prior to implementation of the activities. All terms and conditions of the Section 404 permit, if needed, would be adhered to during construction.

The proposed action could reduce the amount of groundwater recharge in the study areas as a result of the new buildings and pavement limiting surface water infiltration. However, surface water infiltration has historically been a minimal source of groundwater recharge in the study areas, due to low average annual precipitation and lack of year-round surface waters. Therefore, impacts to groundwater recharge would be minimal and localized.

Operation of a new groundwater well at Range 63C would withdraw water from the local groundwater aquifer. Water rights for the well would be transferred from another well in the same aquifer operated by Nellis AFB. Unused rights would be adequate to meet the demand from the increased student capacity without the need to request new rights from the State Water Engineer. The specific design of the well would be based on the projected demand. The transfer of rights would be approved by the State Water Engineer prior to construction of the well. The new groundwater well is not expected to substantially affect the groundwater aquifer or result in excessive pumping of water that is not authorized.



***No-Action Alternative.*** Under the no-action alternative, the Air Force would not construct new facilities, modify existing facilities, or increase the number of students at Creech AFB, Range 63, and Range 71 to 8,000 students annually. Ongoing operations at Creech AFB and the ExpeRT Course would continue to result in ground disturbance and potential discharges into surface waters, but all activities would comply with applicable regulations and permits. Groundwater supply would be similar to current conditions, with sufficient water and rights to meet the demands of the existing student capacity.



## CHAPTER 4

# CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

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### 4.1 CUMULATIVE EFFECTS

#### Scope of Cumulative Effects Analysis

The scope of the cumulative effects analysis in this SEA encompasses a similar geographic extent as the analysis in the ExpeRT EA (Nellis Air Force Base 2006). This cumulative effects analysis also encompasses Range 71. The ExpeRT EA describes related actions at Creech AFB and Range 63. In addition to the projects discussed in the cumulative analysis in the 2006 ExpeRT EA, the following projects were considered for analysis of cumulative impacts for this SEA:

- Upper Las Vegas Wash Conservation Transfer Area: The U.S. Bureau of Land Management is preparing a Supplemental Environmental Impact Statement for the establishment of a conservation area in North Las Vegas, approximately 15 miles southeast of Range 63.
- Solar Energy Right-of-Way Projects: The Department of Energy is proposing rights-of-way for various solar energy projects along U.S. 95 near Indian Springs and U.S. 6 near Tonopah.
- Upgrade of the Indian Springs Collection and Treatment System: The Air Force and Clark County Water Reclamation District recently completed an Environmental Assessment that evaluated the proposed upgrades to the Indian Springs wastewater treatment plant. Creech AFB would tie into the upgraded system and close its treatment facilities.
- Southwest Intertie Project: Idaho Power Company and Great Basin Transmission are working with the U.S. Bureau of Land Management to install a power line along U.S. 93 (30 miles east of Range 63) through Nevada.
- Creech AFB Area Development Plan: The Air Force is in the process of updating the area development plan for Creech AFB, which would incorporate the proposed facilities described in this SEA and provide direction for new facilities that may be needed in the future to accommodate changes in the AFB operations.

- Desert National Wildlife Refuge Complex Comprehensive Conservation Plan: The USFWS is in the process of implementing the comprehensive conservation plan for the Desert National Wildlife Refuge Complex, which includes the Desert National Wildlife Refuge that overlaps the NTTR.
- Las Vegas Resource Management Plan Revision: The U.S. Bureau of Land Management is in the process of revising and updating its resource management plan for the Las Vegas area, which includes land near Range 63.

### **Cumulative Effects Discussion**

The proposed action would result in minor, but adverse, impacts on air quality, biological resources, soils, and water resources and could adversely affect cultural resources. Other projects listed above and ongoing operations at the NTTR could result in similar types of impacts, and, when combined with the proposed action, these impacts may become substantial. Depending on the specific nature of each project's activities and the timing of the activity, impacts may include increased emissions during construction activities and from traffic, modifications to desert tortoise habitat, potential effects on other special-status species, damage to buried or previously undiscovered cultural or paleontological resources, soil disturbance, increased runoff, discharge of pollutants into water bodies, or increased withdrawal of groundwater. Each federal project would comply with NEPA, and the agencies would be required to comply with applicable federal, state, and local laws and regulations to minimize impacts and protect resources. With implementation of mitigation measures similar to those described for the proposed action, cumulative impacts would not be substantial.

The activities, when evaluated with the proposed action, would not generate additive cumulative effects in the region. Because implementation of the proposed action and other actions would result in temporary or very minor impacts to the resources analyzed, it is not anticipated that the proposed action, when combined with other past, present, or future proposed actions, would have a negative cumulative effect on other resources.

## **4.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The proposed action would result in similar irreversible and irretrievable commitments of resources as described in the ExpeRT EA (Nellis Air Force Base 2006). Additional commitments are not anticipated.

## CHAPTER 5

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# CHAPTER 6

## LIST OF PREPARERS AND CONTRIBUTORS

---

### 6.1 NELLIS AIR FORCE BASE

Frank Wertin, Chief, Project Management, 99 CES/CEPM  
Roger Schofield, Program Manager, 98 RANW/XPL  
Roger Christensen, Program Support, 98 RANW/XPL  
Tod Oppenborn, Project Manager, 99 CES/CEAO  
Lynn Haarklau, Project Support, 99 CES/CEAO  
Robert Turner, Natural Resources Manager, 99 CES/CEANS  
Keith Myhrer, Cultural Resources Manager, 99 CES/CEANS  
John Roe, Water Resources Specialist, 99 CES/CEANC  
MSgt David Ferguson, Silver Flag Alpha, 99 GCTS/LGS

### 6.2 NORTH STATE RESOURCES, INC.

Wirt Lanning, Program Manager  
Leslie Wagner, Project Manager  
Rebecca Gaertner, Environmental Analyst  
Brandon Amrhein, Biologist  
Ginger Bolen, Senior Biologist  
Ed Douglas, GIS Analyst  
Kathryn McDonald, Technical Editor/Writer  
Sylvia Cantu, Word Processor/Graphics



## APPENDIX A

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### Interagency and Public Coordination



## NOTICE OF AVAILABILITY



***Nellis Air Force Base Invites Public Comments on the Draft Supplemental Environmental Assessment for the Expeditionary Readiness Training Course Additional Expansion, Nevada Test and Training Range and Creech Air Force Base, Nevada***

Nellis AFB announces the availability for public review and comment on the draft Supplemental Environmental Assessment for the proposed expansion of training and infrastructure facilities for the U.S. Air Force ExpeRT Course located in southern Nevada. The project area is at the Security Forces Regional Training Center based on the NTTR. Specifically, the expansion of existing Security Forces facilities would occur at Creech AFB near Indian Springs, at Ranges 63C and 63A off of U.S. Highway 95 southeast of Indian Springs, and at Range 71 southeast of Tonopah.

A copy of the draft Supplemental Environmental Assessment and draft Finding of No Significant Impact will be available for review beginning June 25 at the Indian Springs Library (715 Gretta Lane), Las Vegas Library (833 Las Vegas Boulevard North), and Beatty Library (400 North 4<sup>th</sup>). You may also request a copy of the document from the address below or view an electronic copy at [www.nellis.af.mil/library/environment.asp](http://www.nellis.af.mil/library/environment.asp). Please provide any comments by July 24, 2010, to:

**Mr. Charles Ramey, 99<sup>th</sup> Air Base Wing/Public Affairs (99 ABW/PA)**  
4430 Grissom Ave., Suite 107, Nellis AFB, NV 89191-7007  
For general information, contact Mr. Ramey at (702) 652-2750





## DISTRIBUTION LIST



## DISTRIBUTION LIST

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715 Gretta Lane  
Indian Springs, NV 89018

Las Vegas Library  
Reference Department  
833 Las Vegas Blvd North  
Las Vegas, NV 89101

Indian Springs Town Advisory Board  
P.O. Box 12  
Indian Springs, NV 89018

Mr. Mario Bermudez, Planning Manager  
Clark County Department of Comprehensive  
Planning  
P.O. Box 551744  
Las Vegas, NV 89155

Commissioner Rory Reid, Chairperson  
Clark County Commission  
500 Grand Central Parkway  
Las Vegas, NV 89106

Nevada State Clearinghouse  
Department of Administration  
209 East Musser Street, Room 200  
Carson City, NV 89701-4298

Ms. Jennifer Olsen  
Southern Nevada Regional Planning Coalition  
240 Water Street, Mail Stop 115  
Henderson, NV 89009

Mr. Robert Williams, State Supervisor  
U.S. Fish and Wildlife Service  
Nevada Ecological Field Office  
1340 Financial Blvd, Suite 234  
Reno, NV 89502

BLM Southern Nevada District Office  
4701 North Torrey Pines  
Las Vegas Nevada 89130

Beatty Library  
P.O. Box 129  
400 North 4th  
Beatty, NV 89003

Beatty Town Advisory Board  
P.O. Box 837100  
A South Ave.  
Beatty, NV 89003



## COVER LETTERS FOR DISTRIBUTION





DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Beatty Library  
P.O. Box 129  
400 North 4th  
Beatty, NV 89003

Mesdames, Gentlemen

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

Attachments:  
Draft SEA  
Draft FONSI

*Global Power For America*



DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Beatty Town Advisory Board  
P.O. Box 837100  
A South Ave.  
Beatty, NV 89003

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

Attachments:  
Draft SEA  
Draft FONSI

*Global Power For America*





DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Ms. Jennifer Olsen  
Southern Nevada Regional Planning Coalition  
240 Water Street, Mail Stop 115  
Henderson, NV 89009

Dear Ms. Olsen

Nellis Air Force Base (AFB) has prepared a draft Supplemental Environmental Assessment (SEA) for the proposed expansion of training and infrastructure facilities for the U.S. Air Force Expeditionary Readiness Training (ExpeRT) Course located in southern Nevada. Construction and operations would occur on the Nevada Test and Training Range (NTTR) and Creech Air Force Base (AFB).

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

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DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

BLM Southern Nevada District Office  
4701 North Torrey Pines  
Las Vegas Nevada 89130

Mesdames, Gentlemen

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DEBORAH C. STOCKDALE  
Chief, Asset Management flight

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Draft FONSI

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DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale

99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Mr. Mario Bermudez, Planning Manager  
Clark County Department of Comprehensive Planning  
P.O. Box 551744  
Las Vegas, NV 89155

Dear Mr. Bermudez,

Nellis Air Force Base (AFB) has prepared a draft Supplemental Environmental Assessment (SEA) for the proposed expansion of training and infrastructure facilities for the U.S. Air Force Expeditionary Readiness Training (ExpeRT) Course located in southern Nevada. Construction and operations would occur on the Nevada Test and Training Range (NTTR) and Creech Air Force Base (AFB).

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

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99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Commissioner Rory Reid, Chairperson  
Clark County Commission  
500 Grand Central Parkway  
Las Vegas, NV 89106

Dear Commissioner Reid,

Nellis Air Force Base (AFB) has prepared a draft Supplemental Environmental Assessment (SEA) for the proposed expansion of training and infrastructure facilities for the U.S. Air Force Expeditionary Readiness Training (ExpeRT) Course located in southern Nevada. Construction and operations would occur on the Nevada Test and Training Range (NTTR) and Creech Air Force Base (AFB).

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*Global Power For America*



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NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Indian Springs Library  
715 Gretta Lane  
Indian Springs, NV 89018

Mesdames, Gentlemen

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Chief, Asset Management flight

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99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Indian Springs Town Advisory Board  
P.O. Box 12  
Indian Springs, NV 89018

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DEPARTMENT OF THE AIR FORCE  
99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Mr. Robert Williams, State Supervisor  
U.S. Fish and Wildlife Service  
Nevada Ecological Field Office  
1340 Financial Blvd, Suite 234  
Reno, NV 89502

Dear Mr. Williams,

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

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99TH CIVIL ENGINEER SQUADRON (ACC)  
NELLIS AIR FORCE BASE, NEVADA

Ms. Deborah C. Stockdale  
99 CES/CEA  
4349 Duffer Dr, Suite 1601  
Nellis AFB, NV 89191-7007

JUN 25 2010

Las Vegas Library  
Reference Department  
833 Las Vegas Blvd North  
Las Vegas, NV 89101

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Sincerely

DEBORAH C. STOCKDALE  
Chief, Asset Management flight

Attachments:  
Draft SEA  
Draft FONSI

*Global Power For America*



## COMMENT LETTERS



**Leslie Wagner**

---

**From:** Andy Reed [areed@lasvegasnevada.gov]  
**Sent:** Thursday, July 01, 2010 4:19 PM  
**To:** Haarklau, Lynn E Civ USAF ACC 99 CES/CEAO  
**Subject:** RE: Supplemental Environmental Assessment

Hi Lynn, we have reviewed the Supplemental Environmental Assessment. The City of Las Vegas has no comment relative to the proposed request.

-----Original Message-----

From: Haarklau, Lynn E Civ USAF ACC 99 CES/CEAO [mailto:Lynn.Haarklau@nellis.af.mil]  
Sent: Thursday, July 01, 2010 11:17 AM  
To: Andy Reed  
Subject: RE: Supplemental Environmental Assessment

Andy,

An electronic copy can be found on our public website at the link below:

<http://www.nellis.af.mil/shared/media/document/AFD-100630-039.pdf>

If the link doesn't work, go to our public site ([www.nellis.af.mil](http://www.nellis.af.mil)), click on the "environment" link on the right side of the page, the top EA link on the left side of the next page is for the ExpeRT SEA. You can e-mail me direct any comments you may have.

Lynn

Lynn Haarklau  
Asset Optimization Chief/NEPA Manager  
99 CES/CEAO  
6020 Beale Avenue, Suite 135  
Nellis AFB, NV 89191-7260

Commercial: 702-652-3025  
DSN: 682-3025  
FAX: 702-652-5549

-----Original Message-----

From: Andy Reed [mailto:areed@lasvegasnevada.gov]  
Sent: Thursday, July 01, 2010 11:08 AM  
To: Haarklau, Lynn E Civ USAF ACC 99 CES/CEAO  
Subject: Supplemental Environmental Assessment

Ms. Haarklau

My name is Andy Reed, and I am a Planning Supervisor for the city of Las Vegas. The city would like to opportunity to review and comment on the Supplemental Environmental Assessment for the proposed expansion of ExpeRT facilities at Creech AFT. How can we can a copy of the SEA?

Thank you for your time.

Andy Reed

Planning Supervisor

City of Las Vegas Planning and Development Department

702-229-6882

JIM GIBBONS  
Governor

STATE OF NEVADA

ANDREW K. CLINGER  
Director



**DEPARTMENT OF ADMINISTRATION**

**209 E. Musser Street, Room 200**  
**Carson City, Nevada 89701-4298**  
**(775) 684-0222**  
**Fax (775) 684-0260**  
**<http://www.budget.state.nv.us/>**

July 22, 2010

Ms Lynn Haarklau  
US Department of Defense  
US Air Force  
99th Civil Engineer Squadron  
4349 Duffer Drive  
Suite 1601  
Nellis AFB, NV 89191-7007

Re: SAI NV # **E2010-240**

Reference:

Project: **Expeditionary readiness course expansion, Nellis AFB**

Dear Ms Lynn Haarklau:

The following agencies support the above referenced document as written:

***State Historic Preservation Office***

This constitutes the State Clearinghouse review of this proposal as per Executive Order 12372. If you have questions, please contact me at (775) 684-0213.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Tietje".

R. Tietje  
Nevada State Clearinghouse

7/15

**Rebecca Palmer**

**From:** Nevada State Clearinghouse  
**Sent:** Friday, July 02, 2010 9:05 AM  
**To:** Rebecca Palmer  
**Subject:** E2010-240 Expeditionary readiness course expansion, Nellis AFB - US Air Force



**NEVADA STATE CLEARINGHOUSE**  
Department of Administration, Budget and Planning Division  
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298  
(775) 684-0213 Fax (775) 684-0260

TRANSMISSION DATE: 7/2/2010

State Historic Preservation Office

Nevada SAI # E2010-240

**Project: Expeditionary readiness course expansion, Nellis AFB**

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

[E2010-240](#)

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than Thursday, July 22, 2010.

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

Clearinghouse project archive

Questions? Reese Tietje, (775) 684-0213 or [clearinghouse@state.nv.us](mailto:clearinghouse@state.nv.us)

☐ No comment on this project ☒ Proposal supported as written

AGENCY COMMENTS:

*Rebecca Palmer*

7/16/10



**DEPARTMENT OF AIR QUALITY & ENVIRONMENTAL MANAGEMENT**

500 S Grand Central Parkway 1st Floor · Box 555210 · Las Vegas, NV 89155-5210  
(702) 455-5942 · Fax (702) 383-9994

Lewis Wallenmeyer Director · Tina Gingras Assistant Director

July 20, 2010

Charles Ramey  
99ABW/PA  
4430 Grissom Ave., St. 107  
Nellis AFB, NV 89191

**Expeditionary Readiness Course Expansion Draft Supplemental Environmental Assessment**

The Clark County Department of Air Quality and Environmental Management (DAQEM) has reviewed the draft supplemental environmental assessment (EA). We understand that the United States Air Force is seeking a finding of "no significant impact" for the expansion project at the Expeditionary Readiness Training (ExpeRT) Course on the Nevada Test and Training Range in southern Nevada. This supplemental EA was prepared to amend the "Expeditionary Readiness Training Course Expansion Final Environmental Assessment," completed in June 2006, for partial expansion of the ExpeRT Course.

According to both EAs, the emissions from construction and operation activities in Clark County will be localized and mitigated through compliance with best management practices contained in the dust control and stationary source permits. Therefore, we agree that there will be no significant air quality impacts as a result of this project.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Wallenmeyer", written over a horizontal line.

Lewis Wallenmeyer  
Director

**BOARD OF COUNTY COMMISSIONERS**

Rory Reid Chairman · Susan Brager Vice-Chairman  
Larry Brown, Tom Collins, Chris Giunchigliani, Steve Sisolak, Lawrence Weekly  
Virginia Valentine, PE, County Manager



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

July 23, 2010

File No. 84320-2010-CPA-0154

Ms. Deborah C. Stockdale  
Chief, Asset Management Flight  
99 CES/CEA  
4349 Duffer Drive, Suite 1601  
Nellis Air Force Base, Nevada 89191

Dear Ms. Stockdale:

Subject: Comments on the Draft Supplemental Environmental Assessment for the Expeditionary Readiness Training Course on the Nevada Test and Training Range and Creech Air Force Base, Clark and Nye Counties, Nevada

This letter responds to your June 25, 2010, request for comments on the subject project. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*; 83 Stat. 852), as amended, the Endangered Species Act of 1973 (Act) (16 U.S.C. 1531 *et seq.*; 87 Stat. 884), as amended, and other authorities mandating the Fish and Wildlife Service's (Service) concern for environmental values. Based on these authorities, we offer the following comments for your consideration.

We are concerned that the proposed project would impact the federally listed as threatened desert tortoise (*Gopherus agassizii*) (Mojave population) and its habitat. Habitat loss and degradation are major threats to the recovery of this species. As a reminder, a programmatic biological opinion for the desert tortoise was issued to the Department of the Air Force on June 17, 2003, as amended (Service File No. 1-5-02-F-522). We recommend that you initiate section 7 consultation for possible project impacts to desert tortoises. In your request for consultation, we ask that you determine whether or not the proposed project is consistent with the analysis in the programmatic biological opinion and consistent with the reasonable and prudent measures and associated terms and conditions provided in the programmatic biological opinion. Information contained in the project's draft Supplemental Environmental Assessment (EA) and Final EA should be referenced in your request.

The Service holds the conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). Under the MBTA, nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Such destruction may be in violation of the MBTA. Therefore, we recommend land clearing, or other surface disturbance associated with the proposed project, be conducted outside the avian breeding season to avoid potential destruction of bird nests or young, or





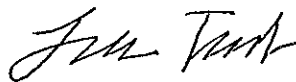
birds that breed in the area. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

In particular, we are concerned about the State-protected western burrowing owl (*Athene cunicularia hypugaea*) and potential project impacts to this species from the proposed action. The western burrowing owl is also a Bird of Conservation Concern (Service 2002) and is listed as a Bureau of Land Management sensitive species. The Nevada Partners in Flight Plan (Neel 1999) identifies the burrowing owl as a priority bird species and identifies the reduction of its habitat in southern Nevada as a major threat to this species. Burrowing owls may be present within the project area. If burrowing owls are determined through surveys to occur within the project area, we recommend that you design your project to avoid disturbing burrows that are used by owls. If this is not possible, we ask that the project incorporate recommendations in our pamphlet, "Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region" (enclosed).

We offer the following general recommendations that would minimize possible impacts to migratory birds from construction of new structures in the Mojave Desert. Holes, gaps or hollow spaces in the proposed facilities or structures could cause cavity-nesting migratory birds to enter and become entrapped in these spaces. Holes, as small as 0.75 inches in diameter, could trap birds. We recommend that gaps or narrow open hollow spaces in the proposed facilities or structures be closed during construction to prevent bird entry. In addition, open-ended posts of any material or color used to mark boundaries at construction sites should be capped; however, since caps can deteriorate over time, use of solid posts is preferred. To prevent raptors and other migratory birds from getting their feet trapped in metal sign posts, any exposed holes near the top of posts should be filled with rivets, bolts or nuts. These conservation measures for migratory birds should be included in the Supplemental EA.

We appreciate the opportunity to provide comments on the proposed project. Please reference Service File No. 84320-2010-CPA-0154 in future correspondence concerning this project. If you have any questions regarding this correspondence, please contact Brian A. Novosak in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230.

Sincerely,



Robert D. Williams  
State Supervisor

Enclosure

**LITERATURE CITED:**

Neel, L.A. (ed.) 1999. Nevada partners in flight bird conservation plan. November 29, 1999.

U.S. Fish and Wildlife Service (Service). 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.

**U. S. Fish and Wildlife Service**

Nevada Fish and Wildlife Office

*Conserving the Biological Diversity of Great Basin, Eastern Sierra  
& Mojave Desert*

**PROTECTING BURROWING OWLS  
AT CONSTRUCTION SITES  
IN NEVADA'S MOJAVE DESERT REGION**  
(June 2007)



Burrowing owl numbers are declining despite protection under the Migratory Bird Treaty Act. Killing or possessing these birds or destruction of their eggs or nest is prohibited.

Be part of the solution; help these owls!



U.S. Fish and Wildlife Service  
Nevada Fish and Wildlife Office  
4701 N. Torrey Pines Drive  
Las Vegas, NV 89130  
Phone: 702-515-5230  
Fax: 702-515-5231

<http://www.fws.gov/nevada>

Though burrowing owls are capable of digging their own burrows, they often will use burrows of other animals for shelter and nesting. They will even adopt pipes or culverts 6” to 8” in diameter.

### **Tips for Protecting Burrowing Owls, Their Eggs and Young at Construction Sites:**

Even though burrowing owls are often active during the day, always check burrows, cracks, and crevices for owls before beginning construction. Use of a fiber-optic scope or remote mini-camera to look into a burrow can help determine the presence of owls or nests. Ensure owls and eggs are not present in burrows when grading begins, to avoid burying them.

In southern Nevada, owls breed from about mid-March through August. If a burrow has an active nest, the site must be avoided until the chicks have fledged. To ensure that birds will not abandon the nest, a buffer of at least a 250-foot radius should be placed around the burrow, within which no construction should occur. It takes a minimum of 74 days from when eggs are laid until chicks are able to fly (fledge). After the young have fledged, check the nest burrow for any owlets before resuming construction.

### **The following owl behaviors may help determine breeding or the presence of an active nest:**

- **A pair of owls is initially observed at a site, then only one owl is observed.** This may indicate that the pair has chosen a nest burrow, and the female has gone down into the burrow to lay and incubate eggs. Once incubation begins the female rarely leaves the burrow.
- **An owl is frequently observed carrying food to the burrow.** The male provides food for the female while she is incubating eggs. The best time of day to observe owls is dawn and dusk, but they may be active throughout the day. The male will most likely leave the food in front of the burrow and the female will come to the entrance to take

the food. This is probably the best indication that the owls have an active nest.

- **Only one owl has been seen for a period of time; then, two owls are observed.** This may indicate that either the nest has failed, or the eggs have hatched, and the female has emerged from the burrow to assist the male in hunting for food to feed the chicks. The chicks will appear at the burrow entrance when they are about 10 days old.

If you are unsure of breeding status, seek the assistance of a professional biologist or other knowledgeable person. Should breeding behavior be observed, presence of an active nest should be assumed and the area avoided until the chicks have fledged or the nest is no longer occupied.

**IMPORTANT! In the Mojave Desert portions of Clark, southern Lincoln and Nye counties, owls may use desert tortoise burrows for nesting and shelter. Desert tortoises are protected under the Endangered Species Act. Killing, harming, or harassing desert tortoises, including destruction of their nests with eggs, without prior authorization is prohibited by Federal law.\***

### **\* IF YOUR PROJECT IS IN CLARK COUNTY, PLEASE READ ON:**

Clark County holds a permit from the U.S. Fish & Wildlife Service authorizing “take” of desert tortoises during the course of otherwise legal activities on non-federal lands. **In Clark County only**, discouraging burrowing owls from breeding in the construction site on private property is allowed by collapsing tortoise burrow’s during the owl’s non-breeding season (September through February). This may help avoid construction delays. Prior to collapsing a burrow, always check for owls or other protected wildlife occupying the burrow for the winter. Call the Nevada Department of Wildlife at 702-486-5127 if a Gila monster is found as this is a State protected species.

Thank you for your assistance in protecting migratory birds and Nevada’s endangered and threatened species!

JIM GIBBONS  
Governor

STATE OF NEVADA

ANDREW K. CLINGER  
Director



**DEPARTMENT OF ADMINISTRATION**

**209 E. Musser Street, Room 200  
Carson City, Nevada 89701-4298  
(775) 684-0222  
Fax (775) 684-0260  
<http://www.budget.state.nv.us/>**

July 26, 2010

Ms Lynn Haarklau  
US Air Force  
99th Civil Engineer Squadron  
4349 Duffer Drive  
Suite 1601  
Nellis AFB, NV 89191-7007

Re: SAI NV # **E2010-240**

Reference:

Project: **Expeditionary readiness course expansion, Nellis AFB**

Dear Ms Lynn Haarklau:

Enclosed are additional comments from the following agencies regarding the above referenced document:

***Department of Wildlife, Las Vegas***

These comments were received after our previous letter to you. Please incorporate these comments into your decision making process. If you have questions, please contact me at (775) 684-0213.

Sincerely,

R. Tietje  
Nevada State Clearinghouse

Enclosure

## Nevada State Clearinghouse

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**From:** Brad Hardenbrook  
**Sent:** Friday, July 23, 2010 8:52 AM  
**To:** Nevada State Clearinghouse  
**Cc:** Steven Siegel; Craig Stevenson  
**Subject:** RE: E2010-240 Expeditionary readiness course expansion, Nellis AFB - US Air Force

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**From:** Nevada State Clearinghouse  
**Sent:** Friday, July 02, 2010 9:04 AM  
**To:** Brad Hardenbrook  
**Subject:** E2010-240 Expeditionary readiness course expansion, Nellis AFB - US Air Force



### NEVADA STATE CLEARINGHOUSE

Department of Administration, Budget and Planning Division  
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298  
(775) 684-0213 Fax (775) 684-0260

TRANSMISSION DATE: 7/2/2010

Department of Wildlife, Las Vegas

**Nevada SAI # E2010-240**

**Project: Expeditionary readiness course expansion, Nellis AFB**

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

[E2010-240](#)

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local

areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

**Please submit your comments no later than Thursday, July 22, 2010.**

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

[Clearinghouse project archive](#)

Questions? Reese Tietje, (775) 684-0213 or [clearinghouse@state.nv.us](mailto:clearinghouse@state.nv.us)

\_\_\_\_No comment on this project \_\_\_\_Proposal supported as written

AGENCY COMMENTS:

“Health and Safety” is listed as a resource eliminated from further evaluation. On page 3-4 the plan states, “All facilities used for weapons firing at Range 63 and Range 71 would be on withdrawn military lands, be contained within prescribed safety zones, and would not endanger civilian populations (which are more than 10 miles away from both areas). Existing safety procedures are established by the range operating agency (Air Force) and would continue to be followed under the proposed action.”

Based on Figure 5 on page 2-11, both the 7.62 caliber and .50 caliber “Surface Danger Zones” extend far beyond the NTTR South Range boundaries onto both the National Desert Wildlife Refuge and adjacent Bureau of Land Management managed lands. This safety zone not only includes the primary access road for the west side of the Sheep Range, East Desert Range and the eastern portion of the Desert Range, but reaches the primary access road to Corn Creek Field Station and extends to within 0.75 mile of facilities and residences of the Station itself.

We understand the Military Lands Withdrawal Act of 1999, Public Law No.10665 (see below or visit <http://www.govtrack.us/congress/bill.xpd?bill=s106-1338> online) authorized the withdrawal of 2,919,890 acres of public lands in Clark, Nye, and Lincoln Counties, Nevada from all forms of appropriation under the public lands laws (including the mining laws and the mineral leasing and the geothermal leasing laws). These withdrawn lands were reserved for use by the Secretary of the Air Force for military testing, training and other defense related purposes. During the period of withdrawal, the Act provides that the lands within the Desert National Wildlife Range will be managed by the Secretary of the Interior pursuant to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd, et seq.) and other laws applicable to the National Wildlife Refuge System. Pursuant to a Memorandum of Understanding with the Secretary of the Air Force, the Secretary of the Interior is to manage withdrawn lands for the purposes for which the Refuge was established and to support current and future military aviation training.

While the proposed expansion may have minimal impacts which might threaten public safety from the existing training activity, clearly there is a need for the Air Force to take this opportunity to better meet requirements for public safety on adjacent lands. It is reasonable to expect the Air Force to redirect firing associated with the proposed training ranges into the withdrawn lands it manages thereby eliminating any suggestion of a threat to public safety on lands that it is not entitled to impact. Alternatively, should the planned range expansion go forward as presented, potential closure of any newly affected lands and roads might deny long-standing access by the general public to enjoy more remote refuge destinations.

Military Lands Withdrawal Act of 1999, Public Law No.10665, online at <http://www.govtrack.us/congress/bill.xpd?bill=s106-1338>. Relevant sections are highlighted in red.

## A BILL

Entitled the ‘Military Lands Withdrawal Act of 1999’.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

### SECTION 1. SHORT TITLE.

This Act may be cited as the ‘Military Lands Withdrawal Act of 1999’.

### SEC. 2. CONGRESSIONAL DECLARATION OF POLICY.

The Congress declares it to be the policy of the United States, as of the date of enactment of this Act, that the public lands withdrawn and reserved by this Act are necessary to ensure the preparedness of this Nation’s armed forces. It is further the policy of the United States that these public lands remain available for public use to the extent practicable, consistent with the military uses for which this withdrawal and reservation is



established. Recognizing that these lands are withdrawn from all forms of appropriation under the general land laws, and shall be available for return to the public domain following their period of military use, the statutory principles under which public lands are managed by the Secretary of the Interior shall be given due consideration during the period of withdrawal and reservation.

### SEC. 3. PUBLIC LAW 99-606 TERMINATION.

Except as otherwise provided, the withdrawals made by [Public Law 99-606](#) shall terminate upon enactment of the Act.

## TITLE II--NELLIS AIR FORCE RANGE, NEVADA

### SEC. 201. WITHDRAWALS AND RESERVATIONS.

#### (a) UNITED STATES DEPARTMENT OF THE AIR FORCE-

(1) WITHDRAWAL- Subject to valid existing rights and except as otherwise provided in this title, all lands and interests in lands within the boundaries established at the Nellis Air Force Range, referred to in subsection (d) of this section, are hereby withdrawn from all forms of appropriation under the general land laws, including the mining, mineral leasing and geothermal leasing laws, and, except as provided in subsection 3(a) of this section, jurisdiction over such lands and interests in lands withdrawn and reserved by this title is hereby transferred to the Secretary of the Air Force.

(2) RESERVATION- The lands withdrawn under subsection (a) of this section are reserved for use by the Secretary of the Air Force for--

- (A) an armament and high-hazard testing area;
- (B) training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
- (C) equipment and tactics development and testing; and
- (D) other defense-related purposes consistent with the purposes specified in this paragraph.

#### (b) UNITED STATES DEPARTMENT OF ENERGY-

(1) REVOCATION- Public Land Order Number 1662, published in the Federal Register June 26, 1958, is hereby revoked in its entirety.

(2) WITHDRAWAL- Subject to valid existing rights, all lands within the boundary of the area labeled 'Pahute Mesa' as generally depicted on the map entitled 'Nevada Test and Training Range, Proposed Withdrawal Extension', dated April 22, 1999, are hereby withdrawn from all forms of appropriation under the general land laws, including the mining, mineral leasing and geothermal leasing laws.

(3) RESERVATION- The lands withdrawn under paragraph (b)(2) of this section are reserved for use by the Secretary of the Department of Energy as an integral part of the Nevada Test Site. Except as provided in section 5 of this title, other provisions of this title do not apply to the land withdrawn and reserved under this subsection.

(c) UNITED STATES DEPARTMENT OF THE INTERIOR- Notwithstanding the Desert National Wildlife Range withdrawal and reservation made by Executive Order Number 7373, dated May 20, 1936, as amended by Public Land Order Number 4079, dated August 26, 1966, and Public Land Order 7070, dated August 4, 1994, those lands depicted as impact areas on the map entitled 'Nevada Test and Training Range, South Range Impact Areas', dated April 22, 1999, are, upon completion of the transfer authorized in paragraph 4(c)(2) of this title, transferred to the primary jurisdiction of the Department of the Air Force, which shall manage those lands in accordance with the memorandum of understanding referenced in section 4 of this title. **The Secretary of the Interior shall retain secondary jurisdiction over such lands for wildlife conservation purposes. (emphasis added)**

(d) LAND DESCRIPTION- The public lands and interests in lands withdrawn and reserved by subsections (a) and (b) of this section comprise approximately 2,919,890 acres of land in Clark, Lincoln, and Nye Counties, Nevada, as generally depicted on the map entitled 'Nevada Test and Training Range, Proposed Withdrawal Extension', dated April 22, 1999, and filed in accordance with section 2 of this title.

(e) CHANGES IN USE- **The Secretary of the Air Force shall consult with the Secretary of the Interior**



prior to using the lands withdrawn and reserved by this title for any purpose other than those purposes identified in paragraph (a)(2) of this section, except that there shall be no such other use of withdrawn lands within the Desert National Wildlife Range.

(f) INDIAN TRIBES- Nothing in this title shall be construed as altering any rights reserved for Indians by treaty or Federal law.

(g) TERMINATION OF WITHDRAWALS- The return to the Secretary of the Interior of any lands withdrawn by Public Law 99-606 and not withdrawn by either subsection 1(a) or subsection 1(b) of this title shall be processed according to the provisions of sections 5 and 8 of this title.

## **SEC. 202. MAP AND LEGAL DESCRIPTION.**

(a) PREPARATION OF MAPS AND LEGAL DESCRIPTION- As soon as practicable after the effective date of this Act, the Secretary of the Interior shall:

(1) publish in the Federal Register a notice containing the legal description of the lands withdrawn and reserved by this title; and

(2) file a map or maps and the legal description of the lands withdrawn and reserved by this title with the Committee on Energy and Natural Resources of the United States Senate and with the Committee on Resources of the United States House of Representatives.

(b) LEGAL EFFECT- Such legal description shall have the same force and effect as if it were included in this title: *Provided*, That the Secretary of the Interior may correct clerical and typographical errors in such legal description. The maps filed under this section shall support the legal description, without independent legal effect.

(c) AVAILABILITY- Copies of the map or maps and the legal description shall be available for public inspection in the offices of the Nevada State Director and Las Vegas Field Office Manager of the Bureau of Land Management and the Office of the Commander, Nellis Air Force Base, Nevada.

(d) COSTS- The Secretary of the Air Force shall reimburse the Secretary of the Interior for the costs incurred by the Secretary of the Interior in implementing this section.

## **SEC. 203. MANAGEMENT OF WITHDRAWN AND RESERVED LANDS.**

(a) GENERAL MANAGEMENT AUTHORITY- During the period of withdrawal and reservation made by this title, the Secretary of the Air Force shall manage the lands withdrawn and reserved by this title for the military purposes specified in section 1(a) of this title, and in accordance with the integrated natural resource management plan prepared pursuant to subsection (c) of this section: *Provided, however*, That responsibility for natural and cultural resources management and the enforcement of Federal laws related thereto shall not transfer before the integrated natural resources management plan a required by subsection (c) of this section is completed or November 1, 2001, whichever ever comes first: *And provided further*, That the Secretary of the Interior may, if appropriate, effect the transfer of responsibility for natural and cultural resources to the Department of the Interior pursuant to subsection (i) of this section: *Provided further, That the Secretary of the Interior shall exercise administrative jurisdiction over the Desert National Wildlife Range (except for those lands referred to in subsection 1(c) of this title), through the United States Fish and Wildlife Service in accordance with the National Wildlife Refuge System Administration Act (16 U.S.C. Sec. 668dd-ee), as amended, this title, and other laws applicable to the National Wildlife Refuge System.*

(b) Access Restrictions-

(1) Except for lands within the Desert National Wildlife Range for which the Secretary of the Interior retains primary jurisdiction, if the Secretary of the Air Force determines that military operations, public safety, or national security require the closure to the public of any road, trail, or other portion of the lands withdrawn and reserved by section 1(a) of this title, the Secretary of the Air Force is authorized to take such action as the Secretary of the Air Force determines necessary or desirable to effect and maintain such closure.

(2) Any such closure shall be limited to the minimum areas and periods that the Secretary of the Air Force determines are required for the purposes specified in this subsection. Prior to any non-emergency closure not specified in the integrated natural resources management plan required by subsection (c) of this section, the Secretary of the Air Force shall consult with the Secretary of the Interior and, where any such closure may affect tribal lands, treaty rights, or sacred sites, the Secretary of the Air Force shall consult, at the earliest practicable time, with the affected Indian tribes.

(3) Immediately preceding and during any closure under this subsection, the Secretary of the Air Force shall post appropriate warning notices and take other steps, as necessary, to

notify the public of the closure.

(4) If the Secretary of the Air Force determines that military operations, public safety, or national security require the closure to the public of any road, trail, or other portion of the Desert National Wildlife Range that is withdrawn by this title, the Secretary of the Interior shall take action to effect and maintain such closure, including agreeing to amend the memorandum of understanding referenced in section 4 of this title, to establish new or enhanced surface safety zones.

(c) INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN- Within two (2) years of the date of enactment of this title, the Secretary of the Air Force and the Secretary of the Interior shall jointly prepare an integrated natural resources management plan for the lands withdrawn and reserved by this title, other than the portion of the Desert National Wildlife Range included in the withdrawal: *Provided, however,* That any disagreement concerning the contents of the plan (or any subsequent amendments to the plan) shall be resolved by the Secretary of the Air Force, after consultation with the Secretary of the Interior through the State Director, Bureau of Land Management and, as appropriate, the Regional Director, United States Fish and Wildlife Service. This authority may be delegated to the installation commander. In all other respects, the plan shall be prepared and implemented in accordance with the Sikes Act (16 U.S.C. Sec. 670a et seq.) and the requirements of this section and shall--

(1) include provisions for proper management and protection of the natural and cultural resources, and for sustainable use by the public of such resources to the extent consistent with the military purposes for which the lands are withdrawn and reserved;

(2) for the lands depicted as impact areas on the map described in section 1(c) of this title, incorporate, to the extent practicable, incorporate the provisions of any management plans adopted by the Desert National Wildlife Range;

(3) be developed in consultation with affected Indian tribes and shall include provisions that address how the Secretary of the Air Force intends to:

(A) meet the United States' trust responsibilities with respect to Indian tribes, lands, and rights reserved by treaty or Federal law affected by the withdrawal and reservation;

(B) allow access to and ceremonial use of Indian sacred sites to the extent consistent with the military purposes for which the lands are withdrawn and reserved; and

(C) provide for timely consultation with affected Indian tribes;

(4) provide that any hunting, fishing, and trapping on the lands withdrawn and reserved by this title shall be conducted in accordance with the provisions of 10 U.S.C. Sec. 2671;

(5) provide for livestock grazing and agricultural out-leasing, if appropriate, in accordance with 10 U.S.C. Sec. 2667 and at the discretion of the Secretary of the Air Force;

(6) identify current test and target impact areas and related buffer or safety zones;

(7) provide that the Secretary of the Air Force shall take necessary actions to prevent, suppress, and manage brush and range fires occurring within the boundaries of the Nellis Air Force Range, as well as brush and range fires occurring outside the boundaries of the Nellis Air Force Range resulting from military activities. Notwithstanding the provisions of 10 U.S.C. Sec. 2465, the Secretary of the Air Force may obligate funds appropriated or otherwise available to the Secretary to enter into memoranda of understanding, cooperative agreements, and contracts for fire fighting that shall reimburse the Secretary of the Interior for costs incurred under this subsection;

(8) provide that all gates, fences and barriers constructed after the enactment of this title shall be designed and erected to allow wildlife access, to the extent practicable and consistent with military security, safety, and sound wildlife management use;

(9) incorporate any existing management plans pertaining to the lands withdrawn and reserved by this title, to the extent that the Secretary of the Air Force and the Secretary of the Interior, upon reviewing any such plans, mutually determine that incorporation into a plan pursuant to this section is appropriate;

(10) include procedures to ensure that the periodic reviews of the plan required by the Sikes Act are conducted jointly by the Secretary of the Air Force and the Secretary of the Interior, and that affected States and Indian tribes, and the public are provided a meaningful opportunity to comment upon any substantial revisions to the plan that may be proposed; and

(11) provide procedures to amend the plan as necessary.

(d) **MEMORANDA OF UNDERSTANDING AND COOPERATIVE AGREEMENTS-** The Secretary of the Air Force may enter into memoranda of understanding or cooperative agreements with the Secretary of the Interior or other appropriate Federal, State, or local agencies, Indian tribes, or other public or private organizations or institutions, as necessary to implement the integrated natural resources management plan prepared pursuant to this section. Any memorandum of understanding or cooperative agreement affecting integrated natural resources management may be combined, where appropriate, with any other memorandum of understanding or cooperative agreement entered into to implement this title, and shall not be subject to the provisions of the Federal Grant and Cooperative Agreement Act of 1977 (31 U.S.C. Sec. 6301-6308).

(e) **USE OF MINERAL MATERIALS-** Notwithstanding any other provisions of this title or the Materials Act of 1947 (30 U.S.C. Sec. 601 et seq.), the Secretary of the Air Force may use sand, gravel, or similar mineral material resources of the type subject to disposition under the Materials Act from the lands withdrawn and reserved by this title: *Provided*, That use of such resources is required for construction needs of the Nellis Air Force Range: *And provided further*, That no mineral material resources may be obtained pursuant to this subsection from those parts of the Desert National Wildlife Range that are not depicted as impact areas on the map described in subsection 1(c) of this title, except in accordance with the procedures set forth in the memorandum of understanding referenced in section 4 of this title.

(f) **WILD HORSES AND BURROS-** Responsibilities for the management and protection of wild free-roaming horses and burros on the Nellis Air Force Range shall be shared by the Secretary of the Air Force and the Secretary of the Interior, but shall continue to be carried out by the Secretary of the Interior, in accordance with the provisions of the Wild Free-Roaming Horses and Burros Act (16 U.S.C. Sec. 1331 et seq.). Within one year of the date of the enactment of this title, the Secretary of the Air Force shall enter into an intragovernmental support agreement with the Secretary of the Interior to reimburse the Secretary of the Interior under section 1535 of title 31, United States Code, for all costs the Department of the Interior incurs in carrying out such management and protection on the Nellis Air Force Range.

(g) **Public Reports-**

(1) Concurrent with each review of the integrated natural resources management plan pursuant to paragraph (c)(10) of this section, the Secretary of the Air Force and the Secretary of the Interior shall jointly prepare and issue a report describing changes in the condition of the public lands withdrawn and reserved by this title from the later of the date of any previous report under this subsection or the date of the environmental impact statement prepared to support this title. In addition, this report shall include a summary of current military use; any changes in military use since the previous report; and efforts related to the management of natural and cultural resources and environmental remediation during the previous five (5) years. This report may be combined with any report required by the Sikes Act. Any disagreements concerning the contents of this report shall be resolved by the Secretary of the Air Force. This authority may be delegated to the installation commander.

(2) Prior to its finalization, the Secretary of the Air Force and the Secretary of the Interior shall invite interested members of the public to review and comment upon the report and shall hold at least one public meeting concerning the report in a location or locations reasonably accessible to those persons who may be affected by management of the lands withdrawn and reserved by this title. The public meeting shall be announced no fewer than 15 days prior to the meeting date by advertisements in local newspapers of general circulation, by publishing an announcement in the Federal Register, and by any other means deemed necessary.

(3) Final reports shall be made available to the public and submitted to appropriate committees of Congress.

(h) **INTERGOVERNMENTAL EXECUTIVE COMMITTEE-** Within two (2) years of the date of the enactment of this title, the Secretary of the Air Force and the Secretary of the Interior shall, by memorandum of understanding, establish an intergovernmental executive committee, comprised of selected representatives from interested Federal agencies, as well as elected officers (or other authorized representatives) from State governments and elected officers (or other authorized representatives) from such local and tribal governments as may be designated at the discretion of the Secretary of the Air Force and the Secretary of the Interior. The intergovernmental executive committee shall be established solely for the purpose of exchanging views, information, and advice

relating to the management of natural and cultural resources on the affected public lands. The intergovernmental executive committee shall operate in accordance with the terms set forth in a memorandum of understanding that shall specify those Federal agencies and elected officers or representatives of State, local and tribal governments to be invited to participate. The memorandum of understanding shall establish procedures for creating a forum for exchanging views, information and advice relating to the management of natural and cultural resources on affected public lands, procedures for rotating the chair of the intergovernmental executive committee, and procedures for scheduling regular meetings. The Secretary of the Air Force shall, in consultation with the Secretary of the Interior, appoint an individual to serve as Committee Coordinator. The duties of the Coordinator shall be included in the memorandum of understanding. The Coordinator shall not be a member of the committee.

(i) TRANSFER OF MANAGEMENT RESPONSIBILITY-

(1) If the Secretary of the Interior determines that the Secretary of the Air Force has failed to manage the lands withdrawn and reserved by this title for military purposes in accordance with the integrated natural resource management plan, and that the failure to do so is resulting in significant degradation of the natural or cultural resources of such lands, the Secretary of the Interior shall give the Secretary of the Air Force written notice of such determination, a description of the deficiencies in management practices by the Secretary of the Air Force, and an explanation of the methodology employed in reaching the determination. Within 60 days of the date such notification is received, the Secretary of the Air Force shall submit a response to the Secretary of the Interior, which response may include a plan of action for addressing any identified deficiencies in the conduct of management responsibility and for preventing further significant degradation of the natural or cultural resources. If, no earlier than three months after the date the notification is received, the Secretary of the Interior determines that the deficiencies are not being corrected, and that significant degradation of the natural or cultural resources is continuing, then the Secretary of the Interior may effect transfer of the management responsibility for the natural and cultural resources of such lands from the Secretary of the Air Force to the Secretary of the Interior, in accordance with a schedule for such transfer to be established by the Secretary of the Interior.

(2) After a transfer of management responsibility pursuant to paragraph (1) of this subsection, the Secretary of the Interior may transfer management responsibility back to the Secretary of the Air Force if the Secretary of the Interior determines that adequate procedures and plans have been established to ensure that the lands withdrawn and reserved would be adequately managed by the Secretary of the Air Force in accordance with the integrated natural resources management plan.

(3) For any period during which the Secretary of the Interior has management responsibility for the lands withdrawn and reserved pursuant to this section, the integrated natural resources management plan established pursuant to subsection (c) of this section, including any amendments to the plan, shall remain in effect, pending the development of a management plan prepared pursuant to the Federal Land Policy and Management Act of 1976, in cooperation with the Secretary of the Air Force.

(4) Assumption by the Secretary of the Interior pursuant to this subsection of management responsibility for the natural and cultural resources of the lands withdrawn and reserved shall not affect the use of these lands for military purposes, and the Secretary of the Air Force shall continue to direct military activities on these lands.

(j) PAYMENT FOR SERVICES- The Secretary of the Air Force shall assume all costs for implementation of the integrated natural resources management plan, including payment to the Secretary of the Interior under [section 1535 of title 31, United States Code](#), for any costs the Secretary of the Interior incurs in providing goods or services to assist the Secretary of the Air Force in the implementation of the integrated natural resources management plan.

(k) DEFINITIONS- For the purposes of this title:

(1) The term 'Indian tribe' means an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994.

(2) The term 'sacred site' means any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or its designee, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion, but only to the

extent that the tribe or its designee has informed the Secretary of the Air Force of the existence of such a site. Neither the Secretary of the Department of Defense, the Secretary of the Air Force, nor the Secretary of the Interior shall be required under 5 U.S.C. Sec. 552 to make available to the public any information concerning the location, character, or use of any traditional Indian religious or sacred site located on land withdrawn and reserved by this title.

## **SEC. 204. DESERT NATIONAL WILDLIFE RANGE.**

(a) EFFECT OF THIS TITLE- Neither the withdrawal under paragraph 1(a)(1) of this title nor any other provision of this title, except subsections 1(c) and 3(b) of this title, shall be construed to amend--

(1) the National Wildlife Refuge System Administration Act of 1966 ([16 U.S.C. 668dd](#), et seq.), as amended;

(2) any Executive order or public land order in effect on the date of enactment of this title with respect to the Desert National Wildlife Range; or

(3) any memorandum of understanding between the Secretary of the Interior and the Secretary of the Air Force concerning the joint use of Air Force withdrawn lands within the external boundaries of the Desert National Wildlife Range, except to the extent the provisions of such agreement are inconsistent with the provisions of this title, in which case such agreement shall be reviewed and amended to conform to this title within 120 days of enactment of this title.

(b) MEMORANDUM OF UNDERSTANDING-

(1) The Secretary of the Interior, in coordination with the Secretary of the Air Force, shall manage the portion of the Desert National Wildlife Range withdrawn by this title, except for the lands referred to in subsection 1(c), for the purposes for which the refuge was established, and to support current and future military aviation training needs consistent with the current memorandum of understanding between the Department of the Air Force and the Department of the Interior, including any extension or other amendment of such memorandum of understanding as provided herein.

(2) As part of the review of the existing memorandum of understanding provided in paragraph (a)(3) of this section, the Secretary of the Interior and the Department of the Air Force shall extend the memorandum of understanding for a period that coincides with the duration of the withdrawal of the Nellis Air Force Range.

(3) Nothing in this section shall be construed as prohibiting the Secretary of the Department of the Interior and the Secretary of the Air Force from revising the memorandum of understanding at any future time should they mutually agree to do so.

(4) Amendments to the memorandum of understanding shall take effect 90 days after the Secretary of the Interior has notified the Committees on Environment and Public Works, Energy and Natural Resources, and Armed Services of the United States Senate and the Committees on Resources and Armed Services of the United States House of Representatives.

(c) AUTHORIZATION OF APPROPRIATIONS-

(1) There are hereby authorized to be appropriated to the Secretary of the Air Force \$15,000,000 for the replacement of Refuge System lands in Nevada transferred to the Air Force by subsection 1(c) of this title.

(2) The Secretary of the Air Force is authorized to acquire lands, waters, or interests in lands or waters pursuant to paragraph (c)(1) of this section which are acceptable to the Secretary of the Interior, and to transfer such lands to the Secretary of the Interior, or to transfer the funds appropriated pursuant to paragraph (c)(1) of this section to the Secretary of the Interior for the purpose of acquiring such lands.

(3) The transfers authorized by paragraph (2) of this subsection shall be deemed complete upon written notification from the Secretary of the Interior to the Secretary of the Air Force that lands or funds equal to the amount authorized in paragraph (1) of this subsection have been received by the Secretary of the Interior from the Secretary of the Air Force.

## **SEC. 205. ENVIRONMENTAL REQUIREMENTS.**

(a) DURING WITHDRAWAL AND RESERVATION- Throughout the duration of the withdrawal and reservation made by this title (including the duration of any renewal or extension), and with



respect both to those activities undertaken by the Secretary of the Air Force on the lands withdrawn and reserved by this title and to all activities occurring on such lands during such times as the Secretary of the Air Force may exercise management jurisdiction over the lands withdrawn and reserved by this title, the Secretary of the Air Force shall--

(1) be responsible for and pay all costs related to, the Department of the Air Force's compliance with applicable Federal, State, and local environmental laws, regulations, rules, and standards;

(2) carry out and maintain in accordance with the requirements of all regulations, rules, and standards issued by the Department of Defense pursuant to its authorities under the Defense Environmental Restoration Program (10 U.S.C. Sec. 2701 et seq.), the Department of Defense Explosives Safety Board (10 U.S.C. 172), and Executive Order 12580, a program to address--

(A) any release or a substantial threat of a release attributable to military munitions (including unexploded ordnance) and other constituents, and

(B) any release or a substantial threat of a release, regardless of its source, occurring on or emanating from the lands withdrawn and reserved by this title during the period of withdrawal and reservation; and

(3) provide to the Secretary of the Interior a copy of any report prepared by the Secretary of the Air Force pursuant to any Federal, State, or local environmental laws, regulations, rules, and standards.

(b) PRIOR TO RELINQUISHMENT OR TERMINATION-

(1) ENVIRONMENTAL REVIEW- Upon notifying the Secretary of the Interior that the Secretary of the Air Force intends, pursuant to section 8 of this title, to relinquish jurisdiction over the lands withdrawn and reserved by this title, the Secretary of the Air Force shall provide to the Secretary of the Interior an environmental baseline survey, military range assessment, or other environmental review characterizing the environmental condition of the land, air, and water resources affected by the activities undertaken by the Secretary of the Air Force on and over the lands withdrawn and reserved by this title. If hazardous substances were stored for one (1) year or more, known to have been released or disposed of, or if a substantial threat of a release exists on the lands withdrawn and reserved by this title, any such environmental review shall include notice of the type and quantity of such hazardous substances, and notice of the time during which such storage, release, substantial threat of a release, or disposal took place.

(2) MEMORANDUM OF UNDERSTANDING- In addition to the provisions of this section, the Secretary of the Air Force and the Secretary of the Interior may enter into a memorandum of understanding to implement the environmental remediation requirements of this title. This memorandum of understanding may include appropriate, technically feasible, and mutually acceptable cleanup standards that both Secretaries believe environmental remediation activities shall achieve, as well as a schedule for completing such activities: *Provided*, that such cleanup standards shall be consistent with any legally applicable or relevant and appropriate standard, requirement, criteria, or limitation otherwise required by law.

(3) ENVIRONMENTAL REMEDIATION- With respect to lands to be relinquished pursuant to section 8 of this title, the Secretary of the Air Force shall take all actions necessary to address any release or substantial threat of a release, regardless of its source, occurring on or emanating from such lands during the period of withdrawal and reservation affected by this Act. To the extent practicable, all such response actions shall be taken before the termination of such withdrawal and reservation.

(4) CONSULTATION- If the Secretary of the Interior accepts the relinquishment of jurisdiction over any of the lands withdrawn and reserved by this title before all necessary response actions have been completed, the Secretary of the Interior shall consult with the Secretary of the Air Force before undertaking or authorizing any activities on the withdrawn and reserved lands that may affect existing releases, interfere with the installation, maintenance, or operation of any response action or expose any person to a safety or health risk associated with either the release or the response action being undertaken.

(c) RESPONSIBILITY AND LIABILITY- The Secretary of the Air Force and the Secretary of the Department of Energy as provided in subsection (d) of this section, and not the Secretary of the Interior, shall be responsible for and conduct the necessary remediation of all releases or

substantial threats of release, whether located on or emanating from lands withdrawn and reserved by this title, and whether known at the time of relinquishment or termination or subsequently discovered, attributable to either the Secretary of the Air Force's or the Secretary of the Department of Energy's management of the lands withdrawn and reserved by this title, or the use, management, storage, release, treatment, or disposal of hazardous materials, hazardous substances, hazardous wastes, pollutants, contaminants, petroleum products and their derivatives, military munitions, or other constituents on the lands withdrawn and reserved by this title. This responsibility shall include the liability for any costs or claims asserted against the United States for such activities. Nothing in this paragraph is intended to prevent the United States from bringing a cost recovery, contribution, or other action against third persons or parties the Secretary of the Air Force or the Secretary of the Department of Energy reasonably believes may have contributed to a release or substantial threat of a release.

(d) OTHER FEDERAL AGENCIES- The Department of Energy shall have the responsibility and liability described in subsection (c) of this section for lands within the boundary of the area labeled 'Pahute Mesa' depicted on the map identified in paragraph 1(b)(2) of this title. If the Secretary of the Air Force or the Secretary of the Department of Energy delegates responsibility or jurisdiction to another Federal agency, or permits another Federal agency to operate on the lands withdrawn and reserved by this title, the Secretary of the Air Force or the Secretary of the Department of Energy shall retain all responsibility and liability described in subsection (c) of this section that is not assumed by that Federal agency to whom the Secretary of the Air Force or the Secretary of the Department of Energy has granted responsibility, jurisdiction, or permission.

(e) DEFINITIONS- For the purposes of this title:

(1) The term 'military munitions' means all ammunition products and components produced or used by or for the U.S. Department of Defense or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy and National Guard personnel. The term military munitions includes: confined gaseous liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by or for Department of Defense components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does not include nonnuclear components of nuclear devices, managed under Department of Energy's nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

(2) The term 'unexploded ordnance' means military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard or potential hazard, to operations, installation, personnel, or material, and remain unexploded either by malfunction, design, or any other cause.

(3) The term 'other constituents' means potentially hazardous compounds, mixtures, or elements that are located on or originate from closed, transferred, or transferring ranges and are released from military munitions or unexploded ordnance, or resulted from other activities on military ranges.

## **SEC. 206. DURATION OF WITHDRAWAL AND RESERVATION.**

(a) Unless extended pursuant to section 7 of this title, the withdrawal and reservation made by this title shall terminate 25 years after the date of the enactment of this Act, except as otherwise provided in subsection 8(d) of this title.

(b) At the date of termination, the previously withdrawn lands shall not be open to any forms of appropriation under the general land laws, including the mining, mineral leasing, and geothermal leasing laws, until the Secretary of the Interior publishes in the Federal Register an appropriate order that shall state the date upon which such lands shall be restored to the public domain and opened.

## **SEC. 207. EXTENSION OF INITIAL WITHDRAWAL AND RESERVATION.**

- (a) Not later than three (3) years prior to the termination date of the initial withdrawal and reservation made by this title, the Secretary of the Air Force shall notify Congress and the Secretary of the Interior concerning whether the Air Force will have a continuing military need, beyond the termination date of such withdrawal, for all or any portion of the lands withdrawn.
- (b) If the Secretary of the Air Force determines that there will be a continuing military need for any of the lands withdrawn by this title, the Secretary of the Air Force shall--
- (1) consult with the Secretary of the Interior concerning any adjustments to be made to the areal extent of, or to the allocation of management responsibility for, such needed lands; and
  - (2) file with the Secretary of the Interior, within one (1) year after the notice required by subsection (a) of this section, an application for extension of the withdrawal and reservation of such needed lands. The Department of the Interior's general procedures for processing Federal land withdrawals notwithstanding, any application for extension under this title shall be considered complete if it includes the following:
    - (A) the information required by section 3 of the Engle Act (43 U.S.C. Sec. 157), except that no information shall be required concerning the use or development of mineral, timber, or grazing resources unless, and only to the extent, the Secretary of the Air Force proposes to use or develop such resources during the period of extension; and
    - (B) a copy of the most recent public report prepared in accordance with subsection 3(g) of this title.
- (c) The Secretary of the Interior and the Secretary of the Air Force shall ensure that any legislative proposal for the extension of the withdrawal and reservation is submitted to Congress no later than May 1 of the year preceding the year in which the existing withdrawal and reservation would otherwise terminate.

## **SEC. 208. TERMINATION AND RELINQUISHMENT.**

- (a) At any time during the withdrawal and reservation but not later than three (3) years prior to the termination date of the withdrawal and reservation affected by this title, if the Secretary of the Air Force determines that there is no continuing military need for the lands withdrawn and reserved by this title, or any portion of these lands, the Secretary of the Air Force shall notify the Secretary of the Interior of an intention to relinquish jurisdiction over such lands, which notice shall specify the proposed date of relinquishment.
- (b) The Secretary of the Interior may accept jurisdiction over any lands covered by a notice of intention to relinquish jurisdiction under this section if the Secretary of the Interior determines that the Secretary of the Air Force has taken the environmental response actions required under section 5 of this title.
- (c) If the Secretary of the Interior accepts jurisdiction over lands covered by a notice of intention to relinquish jurisdiction under this section before the termination date of withdrawal and reservation, the Secretary of the Interior shall publish in the Federal Register an appropriate order that shall:
- (1) terminate the withdrawal and reservation of such lands under this title;
  - (2) constitute official acceptance of administrative jurisdiction over the lands by the Secretary of the Interior; and
  - (3) state the date upon which such lands shall be opened to the operation of the general land laws, including the mining, mineral leasing and geothermal leasing laws, if appropriate.
- (d)(1) Notwithstanding the termination date, unless the Secretary of the Interior accepts jurisdiction of land proposed for relinquishment pursuant to this section or until the Administrator, General Services Administration accepts jurisdiction of such lands under the Federal Property and Administrative Services Act of 1949 (40 U.S.C. Sec. 252 et seq.), such land shall remain under the jurisdiction of the Secretary of the Air Force for the limited purposes of:
- (A) environmental response actions under section 5 of this title; and
  - (B) continued land management responsibilities pursuant to the integrated natural resources management plan under section 3 of this title.
- (2) For any land that the Secretary of the Interior determines to be suitable for return to the public domain, but does not agree with the Secretary of the Air Force that all necessary environmental response actions under section 5 of this title have been taken, the Secretary of the Air Force and the Secretary of the Interior shall resolve the dispute in accordance with any applicable dispute resolution process.
- (3) For any land that the Secretary of the Interior determines to be unsuitable for return to the



public domain, the Secretary of the Interior shall immediately notify the Administrator, General Services Administration.

(e) All functions described under this section, including transfers, relinquishments, extensions and other determinations, may be made on a parcel-by-parcel basis.

#### **SEC. 209. DELEGATIONS OF AUTHORITY.**

(a) SECRETARY OF THE AIR FORCE- Except as may otherwise be provided in this title, the functions of the Secretary of the Air Force under this title may be delegated.

(b) SECRETARY OF THE INTERIOR- The functions of the Secretary of the Interior under this title may be delegated, except that the following determinations and decisions may be approved and signed only by the Secretary of the Interior, the Deputy Secretary of the Interior, an Assistant Secretary of the Interior, or the Director, Bureau of Land Management:

(1) decisions to accept transfer, relinquishment, or jurisdiction for any lands under this title and to open lands to operation of the public land laws; and

(2) decisions to transfer management responsibility from or to a military department pursuant to subsection 3(i) of this title.

#### **SEC. 210. AUTHORIZATION OF APPROPRIATIONS.**

There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

Signature: [D. Bradford Hardenbrook](#)  
Supervisory Habitat Biologist  
NDOW – Southern Region

Date: 23 July 2010

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Distribution: Marta Adams, Attorney General  
Sandy Quilici, Department of Conservation & Natural Resources  
Gary Derks, Division of Emergency Management  
David Mouat, Desert Research Institute  
Kevin Kirkeby, Senator Ensign's Office  
Nancy Boland, Esmeralda County  
Chad Hastings, Fire Marshal  
Karen Beckley, State Health Division  
Kirk Bausman, Hawthorne Army Depot  
Skip Canfield, AICP, Division of State Lands  
Michael J. Stewart, Legislative Counsel Bureau  
Susan Scholley, Legislative Counsel Bureau  
Clint Wertz, Lincoln County  
Zip Upham, NAS Fallon  
Ed Rybold, NAS Fallon  
John Walker, Nevada Division of Environmental Protection  
Steve Siegel, Department of Wildlife, Director's Office  
D. Bradford Hardenbrook, Department of Wildlife, Las Vegas  
Craig Stevenson, Department of Wildlife, Las Vegas  
Robert Martinez, Division of Water Resources  
Lynn Haarklau, Nellis Air Force Base  
Eloisa Hopper, Nellis Air Force Base  
Deborah Stockdale, Nellis Air Force Base  
Tod Oppenborn, Nellis Air Force Base  
Ms. Deborah MacNeill, Nellis Air Force Base  
William Cadwallader, Nellis Air Force Base  
99ABW, Nellis Air Force Base  
James D. Morefield, Natural Heritage Program  
Linda Cohn, National Nuclear Security Administration  
Joseph C. Strolin, Agency for Nuclear Projects

Steve Weaver, Division of State Parks  
Mark Harris, PE, Public Utilities Commission  
Hatice Gecol, Renewable Energy and Energy Efficiency Authority  
Pete Konesky, State Energy Office  
Tara Vogel, State Energy Office  
Jim Groth, State Energy Office  
Rebecca Palmer, State Historic Preservation Office  
Alisa Huckle, UNR Library  
Clearinghouse, zzClearinghouse  
Maud Naroll, zzClearinghouse-Maud

c/o Robert W. Hall, President  
10720 Button Willow Drive  
Las Vegas, Nevada 89134  
702-360-3118  
FAX: 702-360-3119

## Nevada Environmental Coalition, Inc.

July 24, 2010

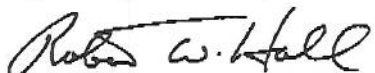
Mr. Charles Ramey  
99<sup>th</sup> Air Base Wing/Public Affairs  
4430 Grissom Avenue, Suite 107  
Nellis AFB, NV 89191-7007

**Re: Comments on Draft Supplemental Environmental Assessment for Expeditionary  
Readiness Training Course Additional Expansion, Nevada Test and Training Range and  
Creech Air Force Base, Nevada.**

Dear Mr. Ramey:

The Nevada Environmental Coalition, Inc. has no objections to the Draft Supplemental Assessment.

Respectfully submitted,



Robert W. Hall, President, Nevada Environmental  
Coalition, Inc. (NEC) and as an individual

**NEC**

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## APPENDIX B

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### Biological Resources Assessment



# EXPERT COURSE EXPANSION

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## *Biological Resources Assessment*

Nevada Test and Training Range,  
Nellis Air Force Base, Nevada

January 2010



**Prepared for:**

United States Air Force  
Air Combat Command  
Nellis Air Force Base, NV  
(702) 652-1110

**Prepared by:**

North State Resources, Inc.  
1321 20<sup>th</sup> Street  
Sacramento, CA 95811  
(916) 446-2566





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## **ATTACHMENTS**

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- Attachment A: U.S. Fish and Wildlife Service Species List
- Attachment B: Nevada Natural Heritage Program List

# ExpeRT Course Expansion

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## Biological Resources Assessment

### INTRODUCTION

This biological resources assessment report provides background information on biological resources in support of the Supplemental Environmental Assessment for the Expeditionary Readiness Training (ExpeRT) Course Expansion at Nellis Air Force Base (AFB) in southern Nevada. This report contains an overview of the proposed action and study areas; a description of the regulatory framework, study methodology, and biological setting; and a summary of recommendations for compliance with applicable laws and regulations. The purpose of this report is to characterize biological resources in the study areas, with emphasis on sensitive biological resources, including federal- and state-listed species, other special-status species, and jurisdictional waters. North State Resources, Inc. (NSR) prepared this report on behalf of Nellis AFB and in coordination with AFB staff.

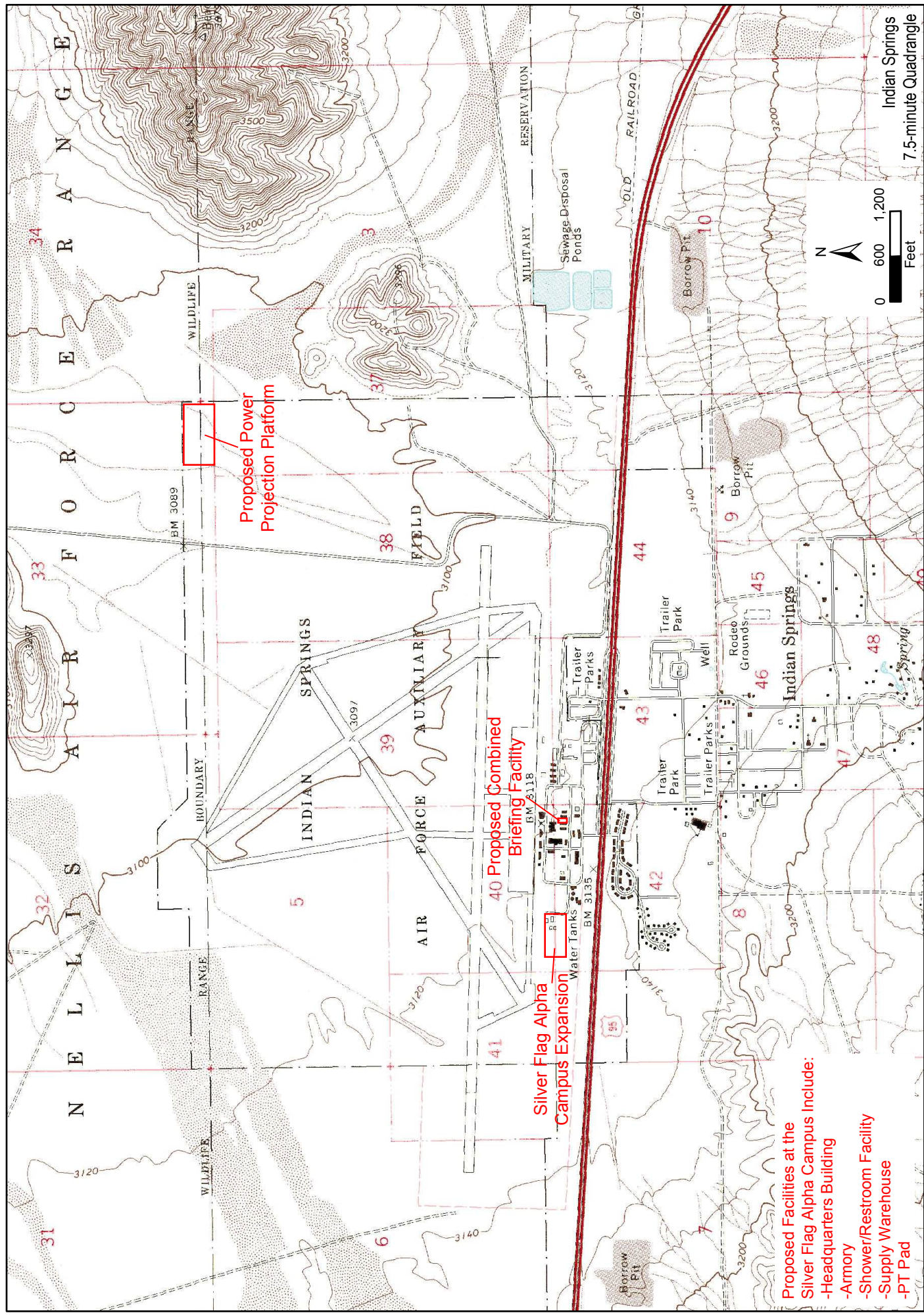
### PROPOSED ACTION

The U.S. Air Force (Air Force) proposes to construct and improve facilities to fulfill student training demands at the ExpeRT Course, part of the Security Forces (SF) Regional Training Center (RTC) based at the Nevada Test and Training Range (NTTR). Specifically, the expansion of existing SF facilities would occur at Creech AFB, Range 63C, part of Range 63A, and Range 71. New facilities at Creech AFB would include administrative buildings and a training and exercise area. Range 63C improvements would include new and expanded facilities at the Military Operations in Urbanized Terrain (MOUT) village, tent city, cadre area, vehicle yard, and target practice ranges. New target practice ranges would be established on Range 63A, adjacent to the existing ranges on Range 63C. A convoy route would be improved on Range 71 to support SF training, including road improvements and new targets.

### STUDY AREA LOCATIONS

The study areas discussed in this report include Creech AFB, Range 63C, the southern portion of Range 63A, and the southern portion of Range 71. These study areas are located within the NTTR, which comprises approximately 2.9 million acres in southern Nevada. The NTTR contains two functional areas: the North Range and South Range, both of which are further divided into sub-ranges. Creech AFB and Ranges 63C and 63A are part of the South Range in Clark County. Range 71 is part of the Tonopah Test Range (TTR), a sub-range of the North Range, in Nye County.

Creech AFB encompasses approximately 2,000 acres on the north side of U.S. Highway 95 (US 95), north of the community of Indian Springs. The AFB is located on the *Indian Springs, Nevada* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Township 16 South, Range 56 East, Sections 5, 37, 38, 39, 40, 41, 42, and 43 as well as Township 15 South, Range 56 East, Section 33). Within the Creech AFB study area, three smaller areas have been designated for expansion activities (Figure 1).



### Figure 1 Crech Air Force Base

The ExpeRT Course at Range 63C encompasses approximately 6,000 acres on the east side of US 95 across from Lee Canyon Road (State Route 156) (Figure 2). Range 63C includes various training facilities with several shooting practice ranges. The portion of Range 63A in the study area is adjacent to the northern boundary of Range 63C (Figure 3). The southern portion of Range 63A is not currently developed and is not used for SF training. The Range 63C/63A study area is located on the *Black Hills SW* and *Corn Creek Springs NW, Nevada* USGS 7.5-minute topographic quadrangles (Township 17 South, Range 58 East, in an unsectioned portion of NTTR and Sections 9, 14, 15, and 16).

The Range 71 study area encompasses approximately 4,000 acres on the east side of US 95, southeast of Tonopah, Nevada (Figure 4). The study area is located in the *Stonewall Spring, Nevada* USGS 7.5-minute topographic quadrangle (Township 3 South, Range 45 East, Sections 12, 13, 16, 17, 20, 21, 22, 26, 27, 28, 34, 35, and 36; Township 4 South, Range 45 East, Sections 1, 2, 11, 12, 13, and 14; Township 4 South, Range 46 East, Sections 6 and 7).

## METHODOLOGY

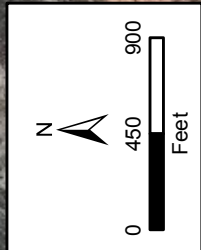
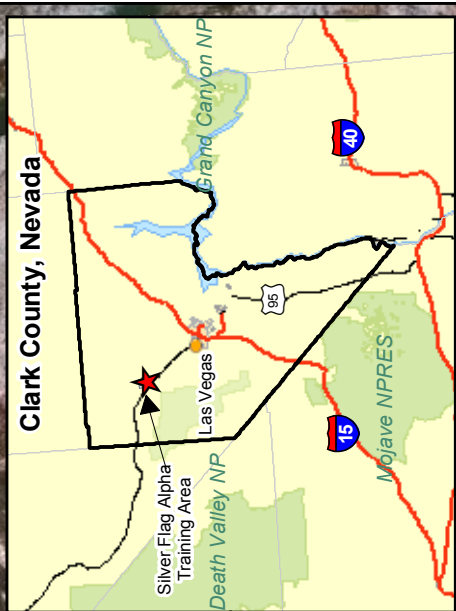
### BACKGROUND RESEARCH

NSR conducted background research on the biological resources in the study areas using information provided by Nellis AFB and information retrieved via database searches and review of pertinent literature. The primary sources of information on resources at the NTTR are the Integrated Natural Resource Management Plan (INRMP), drafted in May 2007 (Nellis Air Force Base 2007), and the 2003 programmatic biological opinion and subsequent amendment for desert tortoise (*Gopherus agassizii*) impacts on the South Range of the NTTR. The INRMP is intended to serve as a practical management guideline for the day-to-day operations and management of the natural resources on the NTTR. The programmatic biological opinion covers the South Range of the NTTR and provides protection measures for the desert tortoise and its habitat; the amendment modified some of the protection measures. Other sources of information include the previous Environmental Assessment for the ExpeRT Course Expansion, completed in 2006 (Nellis Air Force Base 2006); the Nevada Natural Heritage Program (NNHP) website; and the U.S. Fish and Wildlife Service (USFWS) website.

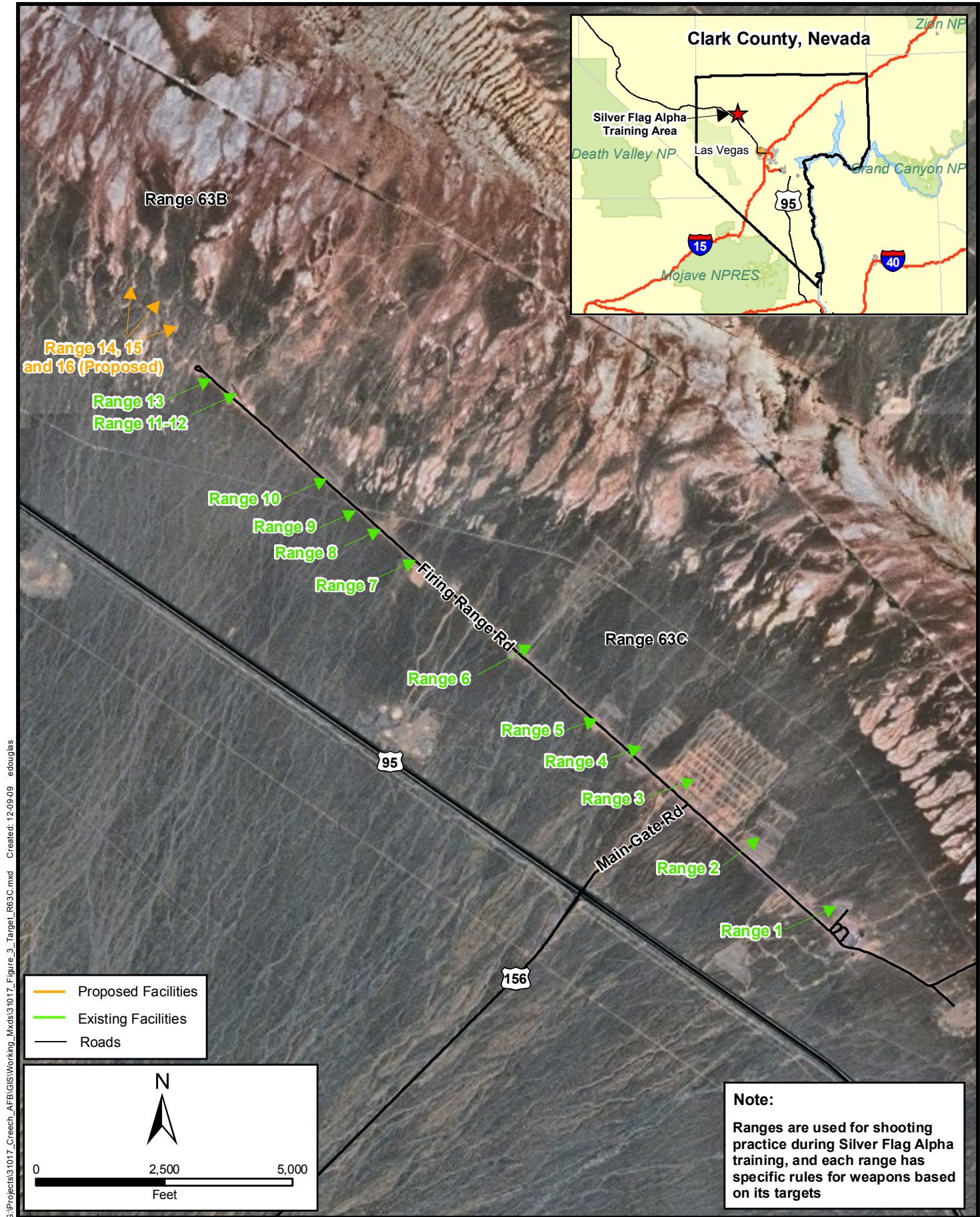
The focus of this evaluation is on special-status plant and animal species that have the potential to be affected by the proposed action. For the purposes of this evaluation, special-status species are those species that are designated as threatened, endangered, sensitive, at-risk, or rare, or are currently candidates to be designated under one of these categories by the USFWS, Nevada Division of Forestry (NDF), Nevada Department of Wildlife (NDOW), or the NNHP. Plant species protected under the Nevada Revised Statutes, but with no other status (i.e., cacti and yuccas), are also considered special-status.

A list of potentially occurring special-status species was compiled from a request to the NNHP for a list of species known to occur in the vicinity of the study areas (Attachment A); a list of Nevada's endangered, threatened, proposed, and candidate species generated by the USFWS for Clark and Nye counties (Attachment B); and previous documentation of special-status species on the NTTR (primarily from the INRMP). The INRMP describes sensitive species that have been observed or have potential to occur on the NTTR. The list of species was refined in coordination with Nellis AFB and resource agency personnel, reconnaissance surveys of the study areas, and reviews of pertinent environmental documents.



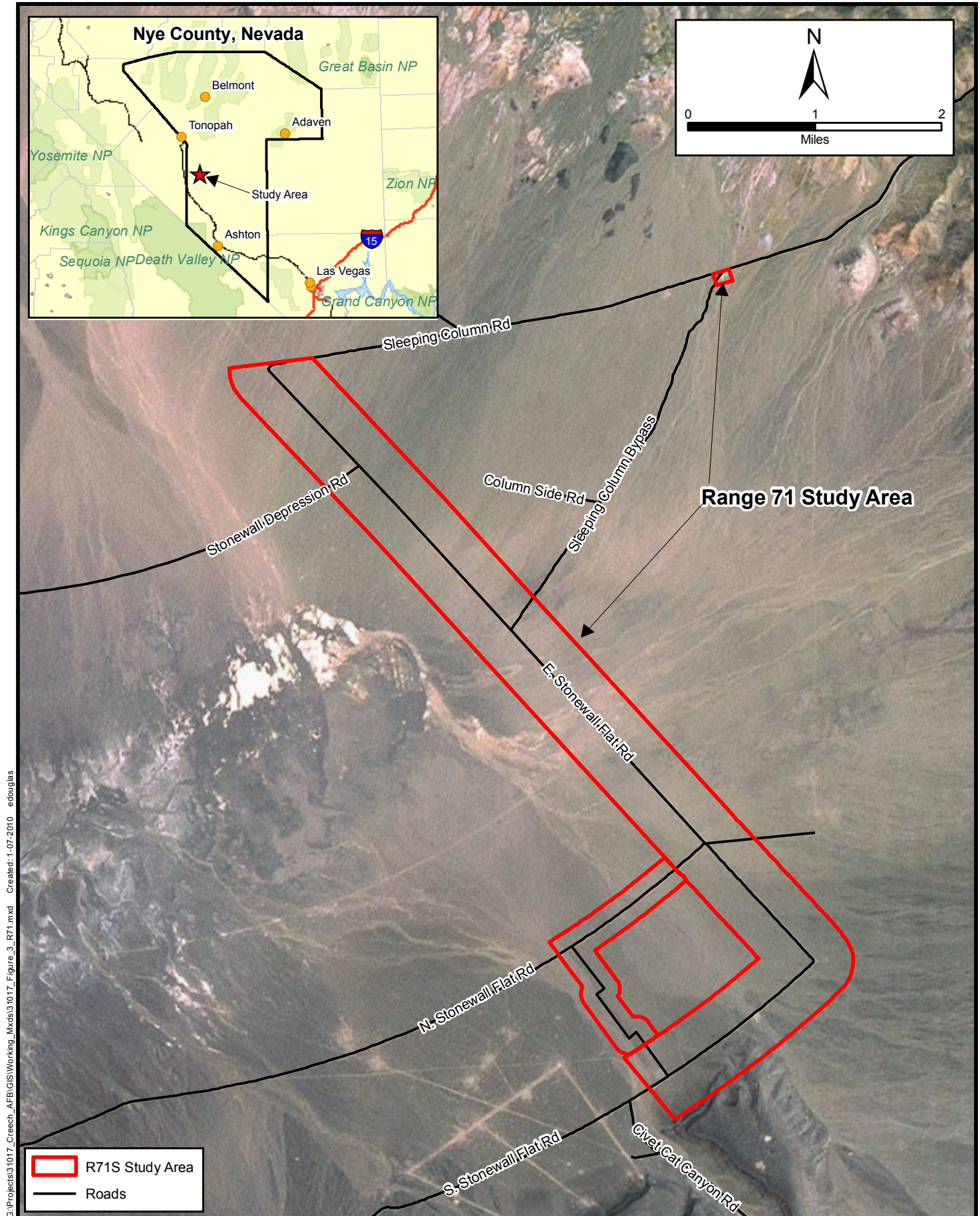






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**Figure 4**  
**Range 71 Convoy Road Corridor**



The potential for special-status species to occur in the study areas was determined based on the suitability of the habitat(s) to support the species, the known or potential distribution ranges of the species, documented occurrences in the area, and other pertinent information on the species. Species not expected to occur in the study areas are not further discussed or analyzed in this report.

## FIELD INVESTIGATION

Reconnaissance-level surveys for special-status plant and wildlife species were conducted by NSR biologists on November 23 and 24, 2009, at Creech AFB, Range 63C, and Range 63A and on November 28, 2009, at Range 71. During the surveys, the biologists recorded information on habitats, environmental conditions, plant and wildlife species, sensitive habitats, and potential waters of the United States. To supplement the surveys, high resolution aerial photographs were reviewed. No protocol-level surveys for special-status species nor an official waters of the United States delineation were conducted as part of the reconnaissance-level surveys.

## REGULATORY FRAMEWORK

The proposed action may be subject to compliance with several federal and state laws that protect biological resources. This section describes applicable regulations that apply to special-status species, waters of the United States, and other sensitive biological resources that may be found in the study areas.

### ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) defines “take” (Section 9) and generally prohibits the “taking” of animal species listed as endangered or threatened (16 USC. 1532, 50 CFR 17.3). Under the ESA, the “take” of a federally listed species is deemed to occur when an intentional or negligent act or omission causes the agent of the action “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The term “harm” includes acts that actually kill or injure wildlife. Such acts may include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Listed plants are not protected from take; however, it is illegal to collect or maliciously harm them on federal lands. The ESA also prohibits interstate or international trade of listed plant and animal species.

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species (plant or animal) or result in the destruction or adverse modification of designated critical habitat for these species.

In June 2003, a programmatic Biological Opinion (BO) was issued by USFWS to the Air Force to address desert tortoise impacts on the lands jointly managed by Nellis AFB and the Desert National Wildlife Refuge (U.S. Fish and Wildlife Service 2003). The BO restricted military ground use (training and testing) to established targets on lands below the 3,600 feet contour line of Indian Springs Valley and below the 3,940 feet contour line of Three Lakes Valley. On June 30, 2004, the USFWS approved an amendment to the BO to revise Term and Condition 1.a. and 1.d (U.S. Fish and Wildlife Service 2004). Basically, it stated that the Nevada Training Initiative Project (640 acres), Target 62-6, and new proposed projects that may involve surface disturbance should be cleared of desert tortoises in accordance with the

previous BO, in lieu of using exclusionary fencing. Specific avoidance and protection measures were identified in the BO and are incorporated into the Recommendations section of this report.

In support of the programmatic BO, the Air Force submitted a desert tortoise habitat delineation map to the USFWS on July 20, 2009, to request concurrence and to provide direction on ESA compliance for Air Force actions on the South Range. On August 27, 2009, the USFWS concurred with the delineation of potential desert tortoise habitat and recommended that the habitat map be used to determine the need to implement measures identified in the BO (U.S. Fish and Wildlife Service 2009).

## MIGRATORY BIRD TREATY ACT

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Most of the birds found in the study areas are protected under the MBTA. Often, construction activities have the potential to directly take nests, eggs, young, or individuals of protected species. Further, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests, which may be a violation of the MBTA.

## CLEAN WATER ACT

The objective of the Clean Water Act (CWA 1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA (33 USC 1251-1376). USACE regulations implementing Section 404 define waters of the United States to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). To comply with the federal policy of no net loss of wetlands, project proponents must mitigate for impacts that result in the direct or indirect loss of wetlands. The USACE oversees a permit program for projects affecting waters of the United States. Projects may be permitted under an individual or general (i.e., nationwide) permit, depending on the nature, size, and type of the project. Section 401 of the CWA requires that applicants for a federal permit or license request state certification for activities that may result in a discharge into a water body to demonstrate that the proposed activity would not violate state and federal water quality standards.

## NEVADA REVISED STATUTES

Under Nevada State law, General Provision NRS (Nevada Revised Statutes) 501 and sub-sections, the State defines wildlife as: any wild mammal, wild bird, fish, reptile, amphibian, mollusk or crustacean found naturally in a wild state, whether indigenous to Nevada or not and whether raised in captivity or not. This chapter also outlines various classifications of wildlife and explains that the State of Nevada can classify wildlife as protected. Protected wildlife may be further classified as either sensitive,

threatened, or endangered. The State tracks and provides public access to various lists and classifies protected species in one of these categories.

Under Nevada State law, General Provision NRS 527.060 through 527.120 it is unlawful to cut, destroy, mutilate, remove, or possess any Christmas tree, cactus, yucca, or branches thereof from any of the lands owned by or under the jurisdiction of the State of Nevada or its counties, or on any reserved or unreserved lands owned by the United States, or from any privately owned lands, without written permission from the State Forester Firewarden or his designate. The definition of “Cactus” includes any member of the Cactaceae family. “Christmas tree” includes any evergreen tree or part thereof, and “Yucca” includes any member of the genus Yucca. The State Forester Firewarden monitors, permits, and regulates removal of these plants under these provisions.

Under Nevada State law, General Provision NRS 555.010 provides a list of designated noxious weeds. The Inspection and Destruction of Noxious Weeds Section of NRS 555 advises that the control of noxious weeds is the responsibility of every landowner or occupant and shall be eradicated as required by the state quarantine officer. The state quarantine officer shall ascertain the name of the owner or occupant of infested lands. The state quarantine officer may serve notice in writing upon the owner or occupant to cut, destroy, or eradicate the weeds within such a time and in such a manner as described in the notice.

## INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN – NELLIS AIR FORCE BASE

The INRMP was prepared under authority of Air Force Instruction 32-7064 (Integrated Natural Resources Management, Sept. 17, 2004) as implemented by Air Force Policy Directive 32-70 (Environmental Quality) and Department of Defense Instruction 4715.3 (Environmental Conservation Program). The authority to establish natural resources management programs at Department of Defense installations is provided by 16 United States Code 670 or the Sikes Act (Conservation Programs on Military Installations).

The primary function of the Nellis AFB INRMP (drafted in 2007) is to sustain military readiness while maintaining ecosystem integrity and dynamics on Nellis AFB and the NTTR. Maintaining ecosystem integrity promotes good stewardship by supporting existing biodiversity, ensuring sustainable use of the installation, and minimizing management costs and efforts (Leslie, et al. 1996). Ecosystem management on Nellis AFB and the NTTR is a goal-driven program that supports present and future military mission requirements while managing natural and cultural resources and supporting ecosystem integrity. It is planned at a scale that is compatible with natural processes; it is cognizant of natural processes' time scales; it is adaptable to complex, changing requirements; and it is implemented through effective partnerships among private, local, state, tribal, and federal interests. Ecosystem management considers the environment as a complex system functioning as a whole, not as a collection of parts, and recognizes that people and their social and economic needs are a part of the whole.

## BIOLOGICAL SETTING

The study areas are in southern Nevada in the Mojave Desert Basin and Great Basin Range. This desert complex region is bordered by the southern Sierra Nevada Mountains on the west, the Great Basin Desert to the north, the Colorado River to the east, and the San Bernardino Mountains and the Sonoran Desert to the south. The Sierra Nevada Mountains form a massive mountain barrier that markedly influences the

climate of the state. The region is characterized by generally north-trending, linear mountain ranges separated by intervening valleys. Precipitation in Nevada is lightest over the southern portion of the state where the NTTR is located. In valleys, the average annual precipitation is less than 5 inches. The region is subject to high-intensity storms that can generate high peak surface flows during the late winter and summer months. Runoff from precipitation is practically non-existent during the rest of the year.

The Mojave Desert is the smallest of the four North American deserts, lying primarily in California, but also including the southern quarter of Nevada and small portions of Utah and Arizona (Royo 2002). Unlike the Sonoran Desert, the lower elevations of the Mojave Desert have only one type of tree, the Joshua tree (*Yucca brevifolia*). This tree-like yucca is endemic to the Mojave Desert and usually grows at elevations of 3,500 feet above mean sea level and greater. The Mojave Desert also hosts approximately 200 other plants that are not found in the Sonoran or Great Basin deserts. Although a published flora of the Mojave Desert is incomplete, approximately 2,600 vascular plant taxa are known to occur in the Mojave Desert floristic province (excluding the higher elevations, greater than 8,000 feet, of the Spring, Sheep, and Panamint Mountain Ranges), representing one of the most diverse floristic regions in the United States. Although home to about 200 endemic plant species, the proportion of the Mojave Desert flora comprising special-status taxa is relatively low (10 percent of flora).

Wildlife species are more abundant in the Mojave Desert than they are in the Great Basin Desert (MacMahon 1992), which may be due to the occurrence of fewer plant species in the Great Basin Desert. Plant communities are home to specific wildlife assemblages. For example, the creosote bush community is known to have at least 30 species of reptiles, 33 species of birds (eight of which are permanent residents), and 44 species of mammals. The blackbrush (*Coleogyne ramosissima*) community has fewer species—19 reptiles, 26 birds, and 33 mammals—but it still contains diverse fauna.

## BIOLOGICAL COMMUNITIES

The study areas support two general biological communities or habitat types: Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub and Mixed Salt Desert Scrub. The Creosotebush-White Bursage Desert Scrub is the dominant habitat type at Creech AFB and Range 63. The Mixed Salt Desert Scrub is the dominant habitat type at the Range 71 study area. Habitat types were characterized based on descriptions provided in Nevada's Wildlife Action Plan (Wildlife Action Plan Team 2006).

The harsh conditions and abundant xerophytic (water tolerant) and halophytic (salt tolerant) vegetation types associated with these biological communities would, at first glance, give the impression of a somewhat inhospitable and uninviting habitat. However, a large complement of wildlife species, including many bird, small mammal, and reptile species, depend on or at least partially use these specific habitats as well as other nearby habitats. A host of heat-tolerant reptile species, for example, are dependent on these habitats, including the desert iguana (*Disposaurus dorsalis*), spotted leafnosed snake (*Phyllorhynchus decurtatus*), and the western diamondback (*Crotalus atrox*) and sidewinder rattlesnakes (*Crotalus cerastes*). Sparsely vegetated creosote and saltbush areas are home to the Le Conte's thrasher (*Toxostoma lecontei*). Desert kangaroo rats (*Dipodomys deserti*) and desert pocket mice (*Chaetodipus penicillatus*) depend on wind-blown sandy areas sometimes associated with these habitats, and creosote seeds make up a large part of the desert pocket mouse's diet. In turn, these small mammals and others are important prey sources for snakes as well as various bird species including the western burrowing owl

(*Athene cunicularia hypugaea*) and loggerhead shrike (*Lanius ludovicianus*). Several bat species also occur in the desert, most of which are considered sensitive.

### **SONORA-MOJAVE-BAJA CREOSOTEBUSH-WHITE BURSAGE DESERT SCRUB**

The complex of vegetation types that comprise the Creosotebush-White Bursage Desert Scrub habitat are uniquely adapted to the harsh conditions present in desert ecosystems. Plants are typically tolerant of low humidity, prolonged droughts, desiccating winds, high alkalinity or salinity, rocky or very sandy soils, and the periodic influx of high quantities of water in the form of surface flooding. Extensive alluvial fans, or bajadas, reach from the perimeter of the mountains down to the low intervening basins, typically ending at the playas that characterize the valley bottoms. These alluvial fans and playa ecotones are where the Mojave/Sonoran Warm Desert Scrub plant communities are found. Creosote bush scrub (Sonora-Mojave-Baja Creosote-White Bursage Desert Scrub) occurs on well-drained sandy flats and bajadas throughout most of the Mojave Desert from 500 to 4,900 feet elevation. Its range extends from the Colorado River on the south to Pahrnagat Valley on the north. Dominant plant species are creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and beavertail cactus (*Opuntia basilaris*).

Range 63 and Creech AFB lie in the northeastern portion of the Mojave Desert at approximately 3,100 feet elevation. These study areas are located in Sonora-Mojave-Baja Creosote-White Bursage Desert Scrub habitat, but portions of the study areas have been disturbed by previous military activities. The desert basin surrounding the study areas supports plant communities dominated by creosote bush and white bursage with less disturbance. Common species observed in the study areas include saltbush species (*Atriplex* spp.), ephedras (*Ephedra* spp.), brittlebush (*Encelia virginensis*), desert mallow (*Sphaeralcea ambigua*), cacti (especially chollas [*Opuntia* spp.]), Mojave yucca (*Yucca shidigera*), and Joshua tree. Other species observed in this habitat include tamarisk species (*Tamarix* spp.), pincushion cactus (*Coryphantha vivipara*), Russian thistle (*Salsola tragus*), and desert trumpet (*Eriogonum inflatum*). Several birds were observed during field surveys, including a roadrunner (*Geococcyx californianus*) and various songbirds. Evidence of rabbits (scat) and rodents (burrows) were also observed in some areas.

Several dry washes traverse the Range 63 study area and drain toward a major wash or dry lake to the east. At Creech AFB, a drainage ditch with wetland vegetation was encountered along a road in the northeast corner of the AFB. Little vegetation is present at Creech AFB because of the regular disturbances associated with base operations and the clearing and grading of the land to support development. Range 63 is less disturbed, but the areas where facilities are located are dominated by invasive and disturbance-tolerant plants (Russian thistle and various grasses) with native vegetation dominating in the outlying areas.

The study areas do not appear to contain any gypsiferous soils, and no rock outcrops or other rocky areas were observed during the field surveys. These features are important habitat components for several special-status plant and animal species known to occur in the Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub biological community. In addition, the highly disturbed nature of the study areas reduces the suitability of the habitats for special-status plant and animal species, although species such as the western burrowing owl are known to use disturbed habitats.

### **MIXED SALT DESERT SCRUB**

The North Range of the NTTR is a transitional area between the Mojave Desert and Great Basin that supports a mixture of biological communities, including creosote bush scrub, Joshua tree woodland, mixed desert scrub community, Great Basin sagebrush scrub, black sagebrush scrub, and a sparsely vegetated rock outcrop community (Nellis Air Force Base 2007). Collectively, these community types are referred to as Mixed Salt Desert Scrub. The north extreme of the North Range fully transitions to the Great Basin Desert, dominated by sagebrush and saltbush vegetation. Community composition is largely influenced by soil salinity and drainage. At the lowest flats of the valleys where soils drain poorest and salinities are highest (typically on the margins of dry lake beds), the most salt-tolerant plants are found, including iodinebush (*Allenrolfea occidentalis*) and quailbush (*Atriplex lentiformis*).

The Range 71 study area is at approximately 5,200 feet elevation. The blackbrush community is dominant in this area. The vegetation of the basin floor near Range 71 is typified by blackbrush, shadscale (*Atriplex confertifolia*), and greasewood (*Sarcobatus baileyi*) and may include winter fat (*Ceratoides lanata*), ephedra, Joshua tree, and hopsage (*Grayia spinosa*). The study area is dominated by an unpaved road and targets that have resulted in varying levels of disturbance in the blackbrush community. Vast expanses of undisturbed vegetation surround the study area. Several washes also traverse the study area. Several songbirds and rabbits were observed during field surveys.

### **SPECIAL-STATUS SPECIES ASSESSMENT**

Several special-status plant and animal species have documented occurrences or distributions in the region. Most of these species have specialized habitat requirements (i.e., gypsiferous-rich soils or wetland habitat) or narrow distribution ranges and are not expected to occur in the study areas due to a lack of suitable habitat. Several plant species with specific habitat requirements and narrow distributions, specifically those occurring at Ash Meadows National Wildlife Refuge and in the Amargosa Valley of Nye County, were eliminated from further consideration. Fish, amphibians, invertebrates, and riparian-dependent birds from the USFWS and NNHP lists were eliminated from further consideration because of an obvious lack of suitable habitat in the study areas (based on field surveys). Several reptiles from the INRMP were also eliminated from further consideration due to a lack of suitable rock outcrops in the study areas.

Of the species listed in Appendices A and B and identified in the INRMP, several plant species have a low potential to occur in the study areas, and two wildlife species have potential to occur in the study areas: desert tortoise and western burrowing owl. Various special-status bat species may also occur in or near the study areas. Cactus and yucca species protected by the Nevada Revised Statutes were encountered in the study areas. No other special-status plant or animal species were detected during the field surveys.

### **PROTECTED PLANT SPECIES**

Several state and federally protected special-status plants have been documented on or have potential to occur on the NTTR, nearby Nellis AFB, or Desert National Wildlife Refuge. These species include: Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesil*), Las Vegas bearpoppy (*Arctomecon californica*), clokey buckwheat (*Eriogonum heermannii* var. *clokeyi*), and white bearpoppy (*Arctomecon merriamii*). Based on field surveys, suitable habitat is not present in most of the study areas (lack of gypsiferous

soils), and the plants have a low potential to occur, although portions of the study areas not specifically surveyed may contain suitable habitat (i.e., less disturbed areas at Range 63A). The state of Nevada also protects all cactus and yucca species, which are present in the study areas.

### ***DESERT TORTOISE***

The Mojave Desert population of the desert tortoise was listed as threatened by the USFWS on April 2, 1990. The species' range in the NTTR vicinity lies primarily within the Mojave desert scrub habitat at elevations below 4,000 feet (Nellis Air Force Base 2006). Desert tortoise home ranges vary with location and year, but may encompass between 25 and 200 acres. Basic habitat requirements include quality forage; shelter from predators and environmental extremes; suitable soil types for burrowing, nesting and over-wintering; vegetation for cover and shelter; and adequate areas for movement and dispersal. Soil structure is an important limiting factor for tortoise habitat. Soils must be firm enough to hold burrows, but soft enough to allow digging. A variety of soil types, from sandy to sandy-gravelly, may be used. Tortoises are herbivorous, with the most important food being desert annuals, cacti, and grasses.

Desert tortoise mating starts in spring and may continue until fall dormancy. Nesting occurs from May to July. Females dig nests, deposit eggs, and abandon the nest; incubation varies from 90 to 120 days. Tortoises depend on bushes for shade and protection from predators such as ravens and coyotes. To escape the temperatures of cold winters and very hot summers, tortoises typically live in burrows. The spring and summer burrows vary from 18 inches to five feet long, but may only be a few inches from the surface. Winter burrows tend to be about eight feet long and may be two to three feet from the surface. They often share burrows and may use multiple burrows scattered across the landscape. They hibernate for up to nine months each year, becoming most active from March to June and September to October. When they are young tortoises seldom venture more than 150 feet from their burrow. As they get older, they may go as far as 0.75 mile in a day and use a network of burrows. In the most densely populated areas, tortoises can be found at densities of one tortoise per 2.5 acres. Typically, tortoises densities are closer to one tortoise per 100 acres (U.S. Fish and Wildlife Service 2008).

In 2009, Nellis AFB and USFWS biologists completed a delineation of desert tortoise habitat within the NTTR. All of Range 63C is in potential tortoise habitat, but Creech AFB and Range 71 are not in suitable habitat. Tortoises may occur at Range 63C, although no evidence of tortoises was observed during field surveys. The disturbed nature of the training area at Range 63C may preclude tortoises from becoming residents, but the proximity of suitable habitat surrounding the training area creates a potential for individuals to move through the area.

As a precautionary measure (which was completed prior to the 2009 tortoise habitat delineation), tent city, in the Range 63 study area, is surrounded by an exclusionary tortoise fence that encompasses the existing facilities. This tortoise fence was inspected during field surveys and determined to be in a state of disrepair. The fence has several locations where damage has created breaches in the fence-line, and several large gaps between the fence and the ground were observed.

### ***WESTERN BURROWING OWL***

The western burrowing owl is a species native to southern Nevada that adapts well to urban environments. It is a former federal species of concern and is a state-protected species in Nevada (Nevada Administrative Code 503.050). Western burrowing owls in southern Nevada may be summer residents,

winter visitors, or year-round residents (Nellis Air Force Base 2007). They average 24 centimeters in length and are distinguished from other small owls by bold spots and bars with relatively long, unfeathered legs. Burrowing owls typically nest in abandoned rodent or other small mammal burrows. Desert tortoise burrows and abandoned kit fox dens may also be used by the owls. The owl is an arid land resident that is relatively tolerant of urban development and is found in many areas of Clark County. Western burrowing owls are known to use developed areas such as golf courses, airports, and road shoulders for habitat. They adapt their hunting to take advantage of the most readily available food source and frequently hunt during the day.

Western burrowing owl have been observed on the NTTR on several occasions. According to the INRMP, in July 1996, owls were observed during daytime work on the sanitary landfill at the south end of Nellis AFB, where one adult was observed raising four young. Owls have also been observed along flood control channels on the southeast side of Nellis AFB and in other areas of the AFB. During biological surveys of the Indian Springs Air Force Auxiliary Field (now known as Creech AFB), one western burrowing owl was observed (Nellis Air Force Base 2007).

The majority of these documented owl sightings are not in the immediate vicinity of the study areas, and small mammal burrows (necessary to support western burrowing owls) are sparse in the study areas. However, the Sonora-Mojave-Baja Creosotebush-White Bursage Desert Scrub habitat, found in the vicinity of the Creech AFB and Range 63 study areas, provides generally satisfactory habitat for burrowing owls. It is unlikely that burrowing owls will breed in the study areas due to a lack of small mammal burrows; it is more likely that burrowing owls will occur nearby and possibly forage in the study areas.

## NESTING MIGRATORY BIRDS

Migratory birds may nest in Joshua trees, shrubs, and other vegetation in and around the study areas. Species known to occur in the study areas that could potentially nest include: mourning dove (*Zenaida macroura*), sage sparrow (*Amphispiza belli*), black-throated sparrow (*Amphispiza bilineata*), roadrunner, lesser nighthawk (*Chordeiles acutipennis*), Gambel's quail (*Callipepla gambelii*), and Scott's oriole (*Icterus spurius*).

## NOXIOUS WEEDS AND INVASIVE PLANT SPECIES

Cheatgrass (*Bromus tectorum*), red brome (*Bromus madritensis var. rubens*), halogeton (*Halogeton glomeratus*), and Russian thistle are invasive species that have been documented on the NTTR (Nellis Air Force Base 2007). Cheatgrass has the widest distribution and is found throughout the North Range. Red brome is mostly restricted to valley bottoms and alluvial fans in the South Range. Both of these grasses are commonly found in areas where soil has been disturbed. Halogeton appears to be restricted to areas that are either regularly or severely disturbed and do not contain a perennial plant component or on undisturbed sites that have saline soils and low cover from native perennial species. Russian thistle appears to be restricted to areas that are regularly or severely disturbed, such as roadsides, or to sites with sandy soils and a low density of perennial plants. Russian thistle was encountered at Creech AFB and Range 63.



## JURISDICTIONAL WATERS

Creech AFB and Range 71 occur in the Central Region Basin, and Ranges 63C and 63A are in the Colorado River Basin. Water features in these basins are primarily ephemeral washes and dry lakes; some springs occur scattered throughout the area. Aside from Range 63, the study areas drain into closed basins and are not subject to USACE's jurisdiction (Nellis Air Force Base 2007). Range 63 drains into the Las Vegas Valley and eventually the Las Vegas Wash and Colorado River, which is a navigable water.

An ephemeral wash and dry lake occur to the east of the Range 63C study area, and several smaller dry washes traverse the study area. The larger features are just outside the existing developed area where the training facilities are located. A dry lake (Mud Lake) also occurs to the north of the Range 71 study area, and several dry washes occur throughout the study area, with a fairly large wash in the southwest portion.

An intermittent or perennial drainage occurs just outside the northeastern portion of the Creech AFB study area. The feature appears to be an artificially fed man-made drainage ditch that is approximately 3 feet wide and no more than 1 foot deep at its ordinary high water mark. The drainage supports emergent vegetation (cattails and reed); however, plant growth appears to be controlled based on evidence of recent sheering. This feature follows a road and drains to the south, but it does not appear to drain beyond the Creech AFB boundary.

## DISCUSSION AND RECOMMENDATIONS

The proposed action has potential to affect biological resources in the study areas. Most of the activities would occur in previously disturbed areas, but some new facilities would be located in less disturbed areas, and training activities would be expanded to include these areas. Construction activities could remove sensitive plants, including cacti and yucca, and have the potential to disturb sensitive wildlife, including the desert tortoise, western burrowing owl, and nesting birds. Future (ongoing) training activities would be similar to current training activities and could disturb habitat and individual species. This section discusses potential impacts on sensitive biological resources and provides recommendations to minimize or reduce adverse impacts. The discussion incorporates guidance from the INRMP, which provides direction on how to resolve environmental impacts related to project implementation on the NTTR.

### POTENTIAL IMPACT 1: PROTECTED PLANTS

Ground disturbance associated with installation of targets, building construction, and training operations in habitat suitable for special-status plants could remove individuals or render the habitat unsuitable. Special-status plants (excluding cacti and yucca) have a low potential to occur in the study areas. Cacti and yuccas are known to occur in the study areas and would need to be removed to accommodate the new training facilities.

The INRMP provides guidelines to evaluate impacts on rare plants and implement measures to prevent or minimize adverse impacts. During the planning or implementation of any proposed action, the natural resource manager should be consulted concerning the following:

- Location of any rare plant populations that could be potentially affected by the action.

- If rare plant populations are identified and could be affected by the action, the action should be modified to avoid or minimize impacts to the rare plants where practical.
- If impacts to rare populations cannot be avoided, methods of mitigation should be developed, which may include transplanting the plant population to another suitable habitat.
- If plants are transplanted to a new location, the location should be selected such that it can be avoided by future impacts if practical.

In compliance with the INRMP, once details on building footprints and target locations at the study areas are known, focused surveys for special-status (rare) plants, including cacti, yucca, and those species listed under the Biological Setting above, should be conducted by a qualified botanist. Plant surveys should be conducted during the appropriate blooming period to locate individuals or populations that need to be protected or transplanted. Consultations with the natural resource manager should commence once detailed project information is known.

## POTENTIAL IMPACT 2: DESERT TORTOISE

No desert tortoises or their burrows have been identified in the study areas, but construction activities and training operations at Range 63 have potential to affect the desert tortoise and its habitat. As part of the proposed action, the Air Force would install a new tortoise exclusion fence around tent city to prevent tortoises from entering the area and allow future activities to commence without potential for tortoise impacts. The fence should be installed under the supervision of a qualified biologist and following tortoise fence standards provided by the USFWS. Other activities outside this fence could result in direct impacts to the desert tortoise or its burrows and could reduce the amount of suitable habitat in the area. The loss of habitat would be minimal because most new facilities would be installed in previously disturbed areas, with minimal vegetation removal. Activities at Creech AFB and Range 71 are not expected to affect the desert tortoise.

Based on the programmatic BO the likelihood of tortoise presence in the study areas is low; however, protective measures should be implemented to minimize impacts on desert tortoises. The following measures, outlined in programmatic BO and subsequent amendment, will ensure that, if desert tortoises are present, they would not be harmed:

- Provide desert tortoise awareness training to all construction and project-related personnel who may travel through potential desert tortoise habitat. This training should provide information on how to identify the tortoise and potential burrows as well as provide information regarding who to contact if a tortoise (or sign of tortoise) is encountered.
- A qualified biologist shall conduct pre-construction clearance surveys for desert tortoises within 500 feet of areas to be disturbed at Range 63 no more than 15 days prior to the initiation of construction activities. If tortoises are found, they will be removed from the area by a qualified biologist, and the construction area will be monitored to ensure tortoises do not return to the area. As an alternative option, exclusionary fencing can be installed prior to construction activities as a preventative action. No clearance surveys are

necessary if fencing is installed before construction. Desert tortoise exclusionary fencing shall be at least 18 inches high and must be installed flush to the ground along the entire perimeter. The preferred option is to clear the construction area of desert tortoise and use a monitor during construction.

- On a case by case basis, as determined by the Nellis AFB natural resources manager and the USFWS, and based on the size (acreage) of and the type of activities that will be conducted, desert tortoises found and removed from the construction area and perimeter areas may be fitted with a radio transmitter. Tortoises may be moved up to 1 mile from the construction area out of harm's way. Tortoises fitted with a radio transmitter will be monitored and data collected until project construction is completed to determine movement and possibility of returning to the area of capture. Returning tortoises will continue to be moved out of harm's way until completion of the earth disturbing activities. Telemetry data will be collected during the construction monitoring phase and as possible for the life of the transmitter or until the transmitter is removed from the tortoise. Telemetry data collected on desert tortoise moved out of harm's way will be provided to the USFWS.
- A qualified desert tortoise monitor will be present on the construction site, during all construction/earthmoving activities until the activities are completed.
- Impose a speed limit of 25 miles per hour in desert tortoise habitat. Speed limit signs shall be posted on roads that enter tortoise habitat and should be monitored to ensure that the speed limit is enforced.
- Rehabilitate any temporary impacts to desert tortoise habitat to preconstruction conditions or pay a per-acre remuneration fee as specified by the USFWS.

### POTENTIAL IMPACT 3: WESTERN BURROWING OWL

No western burrowing owls have been identified in the study areas, and small mammal burrows typically used by this species are generally lacking. However, suitable habitat is present in the vicinity of Creech AFB and Range 63, and burrowing owls may establish or have territories in the vicinity of these study areas. Construction activities and training operations within the vicinity of burrowing owl territories (occupied burrows and adjacent areas) could result in adverse impacts on western burrowing owls.

The following measures are recommended to minimize or avoid impacts on burrowing owls:

- Pre-construction surveys for western burrowing owls within 500 feet of the Creech AFB and Range 63 construction areas shall be conducted by a qualified biologist no more than 15 days prior to the initiation of construction activities. Survey protocol shall follow the guidelines set forth in the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995) or established in consultation with the NDOW. If no western burrowing owls are detected, no further measures are necessary. If burrows used by western burrowing owls are identified within the 500-foot buffer, the burrows will need to be protected from disturbance.

- Burrows occupied by western burrowing owls, and a 250-foot buffer around the burrow, shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- If burrowing owls must be moved away from the construction area, passive relocation techniques (e.g., one-way doors) shall be used rather than trapping. All passive relocation measures shall be implemented by a qualified biologist. Construction activities within 250 feet of burrows (formerly occupied by burrowing owls) containing passive relocation devices shall not be initiated for a minimum of 15 days after installation or as determined appropriate by a qualified biologist, based on observations of the owls successfully relocating to alternate burrows.

#### POTENTIAL IMPACT 4: MIGRATORY BIRDS

The study areas provide suitable nesting habitat and may support nesting migratory bird species protected under the MBTA. Removal of trees, shrubs, or other vegetation during the nesting season can cause direct impacts to nesting birds. Construction noise, vibration, and increased human activity can cause indirect impacts (e.g., nest abandonment, mortality of chicks, etc.).

The following measures are recommended to avoid or minimize adverse impacts on nesting migratory birds:

- If practicable, construction activities (especially removal of woody vegetation) shall be conducted outside of the nesting season (i.e., conduct construction from August to February). If construction activities are conducted outside of the nesting season, no further measures are necessary.
- If construction activities are scheduled during the nesting season, pre-construction surveys for active migratory bird nests within the construction area and a 300-foot buffer shall be conducted by a qualified biologist within 15 days prior to the initiation of construction activities. If active nests (more than half completed) are identified within the surveyed area, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include, but are not limited to the following: establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

#### POTENTIAL IMPACT 5: JURISDICTIONAL WATERS

Direct impacts (i.e., placement of fill into) to waters of the United States or wetlands are not anticipated during construction activities or training operations. The surface water features in the vicinity of the study areas can be avoided by construction, and no facilities are proposed to be located in the dry washes or drainage ditch. If facility designs are altered to require placement of fill material or structures in dry washes at Range 63, a waters of the United States delineation should be prepared and submitted to the USACE for verification, and a Section 404 permit and Section 401 water quality certification may be

required prior to implementation of the activities. Surface water features at Range 71 and Creech AFB are not expected to fall under the jurisdiction of the USACE, based on the descriptions of these areas in the INRMP.

To prevent indirect impacts on surface water features, standard best management practices to protect water quality and prevent pollutants in runoff should be implemented during construction. No stockpiling or equipment storage should occur within 50 feet of the drainage features to prevent the chances of accidental contamination and transport of chemicals such as fuels or fill material.

## REFERENCES

- California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. October 17, 1995.
- Leslie, et al. 1996. Conserving Biodiversity on Military Lands: A Handbook for Natural Resource Managers. Arlington, VA: The Nature Conservancy.
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- U.S. Fish and Wildlife Service. 2004. Amendment to the programmatic biological opinion for activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range (NTTR), and the Nevada Training Initiative (NTI), Clark and Lincoln Counties, Nevada (File No. 1-5-02-F-522.AMD1). Nevada Fish and Wildlife Office.
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- U.S. Fish and Wildlife Service. 2009. Request for concurrence with desert tortoise habitat delineation on the Nevada Test and Training Range, Clark and Lincoln Counties, Nevada (File No. 1-5-02-F-522.AMD1). Nevada Fish and Wildlife Office.
- Wildlife Action Plan Team. 2006. Nevada Wildlife Action Plan. Nevada Department of Wildlife, Reno. June 23, 2006.

## **ATTACHMENT A**

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### **U.S. FISH AND WILDLIFE SERVICE LIST**





# Nevada's Protected Species by County

U.S. FISH AND WILDLIFE SERVICE  
NEVADA FISH AND WILDLIFE OFFICE

NEVADA'S ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES  
BY COUNTY  
(Updated May 2, 2008)

## CLARK COUNTY

### Birds

- |   |  |                                       |
|---|--|---------------------------------------|
| E | Southwestern willow flycatcher •                                   | <i>Empidonax traillii extimus</i>     |
| C | Yellow-billed cuckoo<br>(Western U.S. Distinct Population Segment) | <i>Coccyzus americanus</i>            |
| E | Yuma clapper rail  | <i>Rallus longirostris yumanensis</i> |

### Reptile

- |   |                                       |                           |
|---|---------------------------------------|---------------------------|
| T | Desert tortoise (Mojave population) • | <i>Gopherus agassizii</i> |
|---|---------------------------------------|---------------------------|

### Amphibian

- |   |                     |                  |
|---|---------------------|------------------|
| C | Relict leopard frog | <i>Rana onca</i> |
|---|---------------------|------------------|

### Fishes

- |   |                          |                                      |
|---|--------------------------|--------------------------------------|
| E | Bonytail chub •          | <i>Gila elegans</i>                  |
| E | Colorado pikeminnow *    | <i>Ptychocheilus lucius</i>          |
| E | Humpback chub *          | <i>Gila cypha</i>                    |
| T | Lahontan cutthroat trout | <i>Oncorhynchus clarkii henshawi</i> |
| E | Moapa dace               | <i>Moapa coriacea</i>                |
| E | Pahrump poolfish         | <i>Empetrichthys latos</i>           |
| E | Razorback sucker •       | <i>Xyrauchen texanus</i>             |
| E | Virgin River chub + •    | <i>Gila seminuda</i>                 |
| E | Woundfin •               | <i>Plagopterus argentissimus</i>     |

### Plant

- |   |                     |   |
|---|---------------------|---|
| C | Las Vegas Buckwheat | <i>Eriogonum corymbosum</i> var. <i>nilesil</i> |
|---|---------------------|---|

## NYE COUNTY

## Birds

- |   |   |                                   |
|---|---|-----------------------------------|
| C | Yellow-billed cuckoo<br>(Western U.S. Distinct Population<br>Segment) | <i>Coccyzus americanus</i>        |
| E | Southwestern willow flycatcher  | <i>Empidonax traillii extimus</i> |

## Reptile

- T Desert tortoise (Mojave population) • *Gopherus agassizii*

## Amphibian

- C Columbia spotted frog (Great Basin Distinct Population Segment) *Rana luteiventris*

## Fishes

- |   |                                |   |
|---|--------------------------------|---|
| E | Ash Meadows Amargosa pupfish ● | <i>Cyprinodon nevadensis mionectes</i>  |
| E | Ash Meadows speckled dace ●    | <i>Rhinichthys osculus nevadensis</i>   |
| E | Devil's Hole pupfish           | <i>Cyprinodon diabolis</i>              |
| T | Lahontan cutthroat trout       | <i>Oncorhynchus clarkii henshawi</i>    |
| T | Railroad Valley springfish ●   | <i>Crenichthys nevadae</i>              |
| E | Warm Springs pupfish           | <i>Cyprinodon nevadensis pectoralis</i> |
| E | White River spinedace ●        | <i>Lepidomeda albivallis</i>            |

## Invertebrate

- T Ash Meadows naucorid •
- Ambrysus amargosus*

## Plants

- |   |                                  |   |
|---|----------------------------------|---|
| E | Amargosa niterwort               | <i>Nitrophila mohavensis</i>                                    |
| T | Ash Meadows blazing star ●       | <i>Mentzelia leucophylla</i>                                    |
| T | Ash Meadows gumplant ●           | <i>Grindelia fraxinoprattensis</i>                              |
| T | Ash Meadows ivesia (mousetail) ● | <i>Ivesia eremica</i> (= <i>I. kingii</i> var. <i>eremica</i> ) |
| T | Ash Meadows milkvetch ●          | <i>Astragalus phoenix</i>                                       |
| T | Ash Meadows sunray ●             | <i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>             |
| T | Spring-loving centaury ●         | <i>Centaureum namophilum</i>                                    |

### Notes:

E = Endangered

T = Threatened

C = Candidate

● = Designated Critical Habitat in County

\* = Believed extirpated from Nevada

+ = Endangered only in the Virgin River, Muddy River population is a sensitive species.

## **ATTACHMENT B**

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### **NEVADA NATURAL HERITAGE PROGRAM LIST**



ALLEN BIAGGI  
Director

Department of Conservation  
and Natural Resources

JENNIFER E. NEWMARK  
Administrator

JIM GIBBONS  
Governor



Nevada Natural Heritage Program  
Richard H. Bryan Building  
901 S. Stewart Street, suite 5002  
Carson City, Nevada 89701-5245  
U.S.A.

tel: (775) 684-2900  
fax: (775) 684-2909



STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
**Nevada Natural Heritage Program**  
<http://heritage.nv.gov>

09 December 2009

Leslie Wagner  
North State Resources, Inc.  
1321 20<sup>th</sup> Street  
Sacramento, CA 95814

RE: Data request received 30 November 2009

Dear Ms. Wagner:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or At Risk plant and animal taxa recorded within or near the Creech AFB ExpeRT Course Project area. We searched our database and maps for the following, a five kilometer radius around:

Township 17S Range 58E Sections 09 and 14-16  
Township 16S Range 56E Sections 05 and 37-43  
Township 15S Range 56E Section 33  
Township 03S Range 45E Sections 12, 13, 16, 17, 20-22, 26-28 and 34-36  
Township 04S Range 45E Sections 01, 02 and 11-14  
Township 04S Range 46E Sections 06 and 07

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for, the desert tortoise, *Gopherus agassizii*, a Federally Threatened Taxon, and the Ripley gilia, *Gilia ripleyi*, a Taxon determined to be Vulnerable by the Nevada Natural Heritage Program. We do not have complete data on various raptors that may also occur in the area; for more information contact Chet Vandellen, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

In addition to the species location data provided with this response, the Nevada Natural Heritage Program (NNHP) has other location records in your project area that are awaiting final quality-control and data input processes. Within the boundary that was searched for your project, this includes:

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow  
Biologist /Data Manager

At Risk Taxa Recorded Near the Creech AFB ExpeRT Course Project Area (Range 63C Study Area)

Compiled by the Nevada Natural Heritage Program for North State Resources, Inc.

09 December 2009

<u>Scientific name</u>	<u>Common name</u>	<u>Usfws</u>	<u>Blm</u>	<u>Usfs</u>	<u>State</u>	<u>Srank</u>	<u>Grank</u>	<u>Lat</u>	<u>Long</u>	<u>Prec</u>	<u>Last observed</u>
<b>Plants</b>											
<i>Eriogonum heermannii</i> var. <i>clokeyi</i>	Clokey buckwheat		N	S		S2	G5T2	362525N	1153249W	G	1976-PRE
<b>Reptiles</b>											
<i>Gopherus agassizii</i>	desert tortoise (Mojave Desert pop.)	LT	S	T	YES	S2S3	G4	362812N	1152902W	S	1987-1990
<i>Gopherus agassizii</i>	desert tortoise (Mojave Desert pop.)	LT	S	T	YES	S2S3	G4	363015N	1152848W	M	1991-POST

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

LT Listed Threatened - likely to be classified as Endangered in the foreseeable future if present trends continue

Bureau of Land Management (Blm) Species Classification:

S Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law  
N Nevada Special Status Species - designated Sensitive by State Office

United States Forest Service (Usfs) Species Classification:

S Region 4 (Humboldt-Toiyabe NF) sensitive species  
T Region 4 and/or Region 5 Threatened species

Nevada State Protected (State) Species Classification:

Fauna: YES Species protected under NRS 501.

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

S Seconds: within a three-second radius  
M Minutes: within a one-minute radius, approximately 2 km or 1.5 miles  
G General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (Grank) and State (Srank) Ranks for Threats and/or Vulnerability:

G Global rank indicator, based on worldwide distribution at the species level  
T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level  
S State rank indicator, based on distribution within Nevada at the lowest taxonomic level  
1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors  
2 Imperiled due to rarity or other demonstrable factors  
3 Vulnerable to decline because rare and local throughout its range, or with very restricted range  
4 Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery  
5 Demonstrably secure, widespread, and abundant  
A Accidental within Nevada  
B Breeding status within Nevada (excludes resident taxa)  
H Historical; could be rediscovered  
N Non-breeding status within Nevada (excludes resident taxa)  
Q Taxonomic status uncertain  
U Unrankable  
Z Enduring occurrences cannot be defined (usually given to migrant or accidental birds)  
? Assigned rank uncertain

At Risk Taxa Recorded Near the Creech AFB ExpeRT Course Project Area (Creech Study Area)

Compiled by the Nevada Natural Heritage Program for North State Resources, Inc.

09 December 2009

<u>Scientific name</u>	<u>Common name</u>	<u>Usfws</u>	<u>Blm</u>	<u>Usfs</u>	<u>State</u>	<u>Srank</u>	<u>Grank</u>	<u>Lat</u>	<u>Long</u>	<u>Prec</u>	<u>Last observed</u>
<b>Plants</b>											
<i>Arctomecon merriamii</i>	white bearpoppy		N	S		S3	G3	363057N	1154334W	G	1954-05-10
<i>Astragalus nyensis</i>	Nye milkvetch					S3	G3	363845N	1154301W	G	1941-05-14
<i>Astragalus nyensis</i>	Nye milkvetch					S3	G3	363407N	1153853W	G	1906-05
<b>Birds</b>											
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	LE	S	E	YES	S1B	G5T1T2	363427N	1153950W	G	1932-07-11

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

LE Listed Endangered - in danger of extinction in all or a significant portion of its range

Bureau of Land Management (Blm) Species Classification:

S Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law  
N Nevada Special Status Species - designated Sensitive by State Office

United States Forest Service (Usfs) Species Classification:

S Region 4 (Humboldt-Toiyabe NF) sensitive species  
E Region 4 and/or Region 5 Endangered species

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T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level  
S State rank indicator, based on distribution within Nevada at the lowest taxonomic level  
1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors  
2 Imperiled due to rarity or other demonstrable factors  
3 Vulnerable to decline because rare and local throughout its range, or with very restricted range  
4 Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery  
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? Assigned rank uncertain